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An investigation into progress of second language in use through student responses to a task-based course set within an EAP context

Jones, Carys Lloyd

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**An Investigation into
Progress of Second Language in Use
through Student Responses to a
Task-based Course
set within an EAP Context**

Carys Lloyd Jones

VOL I

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ABSTRACT

This study investigates students' progress in using their second language in response to an integrated-skills, task-based course within an English-for-Specific-Academic-Purposes setting. Emerging from studies concerned about a "gap" perceived as existing between preparatory contexts and higher education contexts, the course was designed to assist students' development of English as a second language through use in context. Informed by two main fields: Linguistics and Education, its theoretical framework stems from Halliday and Vygotsky.

It is an in-depth, qualitative study of a small sample of Japanese students, preparing for undergraduate study through a five-month course, comprising a series of five tasks and accompanying pre-post task activities. The data sources were: students' essays and notes, students' responses to pre-post task activities, researcher's observations. Three analytical instruments were developed; two for the essays: assessment criteria, describing holistically and qualitatively language-in-use, and providing numeric scores; and a text analytic framework, providing a fine-grained analysis of language-in-use; for the other data: a learning framework, analysing students' approaches to tasks: deep, strategic, surface. Analytic results contributed to three in-depth student profiles.

All three students had different progress trajectories; but common to them was jagged rather than smooth progress. Profile 1 started reasonably high, dropping slightly, returning to a high level and remaining there; Profile 2 started relatively low, reaching a higher level immediately and maintaining this; Profile 3 started very low, rising to a higher level immediately but had difficulty in maintaining this. The text analysis findings for all students showed features of language-in-use that indicate different types of progress at the textual, inter-T-unit, intra-T-unit and lexicogrammar levels, with linguistic features exemplifying success differing from those that hinder success. Approaches to tasks showed that adoption of deep and strategic approaches led to better performance than adoption of a surface approach and encouraged student reflection. Student profiles suggest a possible threshold level predicting the effectiveness of such a course for students.

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CHAPTER 1

INTRODUCTION: THE CONTEXT FOR THE THESIS

This thesis is concerned with the needs of students wishing to study at tertiary level in a Western academic environment when they are from another cultural and linguistic background. It investigates how the needs of these students might be addressed so that they are enabled both to achieve academic success and to fulfil their academic potential.

The students I am interested in are studying in situations where they need to use a second language as their main means of communication. To this end, the thesis focuses on the development of second language use for specific academic purposes. It draws on second language acquisition theories and systemic functional linguistics within the field of applied linguistics, on cognitive and social psychology applied to education, and on the field of academic literacies.

1.1 The focus of the research

Since the 1970's, concern has been expressed by researchers and practitioners, particularly those working in the fields of English for Academic Purposes (EAP) and Second Language Acquisition and Learning (SLA and SLL), about the limited understanding of the underlying problems of international students studying in British or American universities (see Jones, Turner & Street 1999).

The field of EAP, which offers a high level of well-developed, specialist support, guidance and teaching, has many years' experience of addressing problems encountered by international, non-native speaker students, both before and during academic mainstream study (Jordan 1997, MacEldowney 1982, Swales 1985). However, a so-called 'gap' marking crucial differences between the EAP context and the main study context too often persists because the support provided in EAP is found not to be transferable to the target context.

My thesis examines students' responses to a task-based approach used to help students prepare in advance for university study, i.e. within an EAP setting. Task-based language learning (TBL) has been widely researched and discussed in recent years in the context of general second language development (for example see: Bygate 1994, Candlin & Murphy 1987, Gass & Crookes 1993a and 1993b, Nunan 1989, Prabhu 1987, Robinson 1996, Skehan 1996, Wenden 1995, Willis 1996). But much more needs to be investigated within the EAP context of learning about how students' own potential can be realised and capitalised upon to enable them to become independent thinkers and contributors within their academic community.

My intention is to investigate this point by examining students' responses to a task-based context of

learning. I strongly support the argument that the concentration on the language itself is inadequate to explain and contribute to an enhancement of language use (Halliday 1993). Because language is used to make meaning, a content-based approach that draws on general learning theories seems an interesting way forward to gain an effective understanding about how students improve in using their second language use.

My research is a qualitative study of a small group of students within an EAP-type setting that supported a subject-based programme designed to prepare them for entry to under-graduate study at a British university. The students were young Japanese adults, all educated up to the end of secondary level within the Japanese system.

I designed a task-based course, which was implemented over a five-month period with these students, to investigate the development of their use of English within the specific context of the course. Three instruments were used to analyse the data representing the students' responses and the results provided some important insights about their performances and progress that signaled the value of examining those responses in depth. As the study unfolded, implications for further research and teaching emerged.

1.2 The background to this study

My reasons for embarking on this study arise from several years' experience of working in the field of EAP in a variety of contexts, both within the UK and outside. Most positively, those years taught me how stimulating academic exchange among students from diverse cultural and educational backgrounds can be for developing new dimensions of thought. The question was how to capture this when institutional standards are set in very specific, cultural, academic traditions, as particularly exemplified in evaluating students' written assignments (Hermerschmidt 1999, Ivanic 1999, Lillis 1999). Indeed different tensions have arisen over the past two decades among pedagogical approaches within EAP for helping international students prepare for that dominant culture (Howe 1990, 1993, Blue 1993, Turner 1993).

The beginnings of EAP in Britain emerged during the 1970's. Due to the trend of increasing numbers of international students embarking on university study, EAP became an important concept in the UK, as did 'Composition', or more recently, 'Writing across the Curriculum' (WAC) in the US (Davidson and Tomic 1999). At that time developments in EAP were based on the premise that international students did not need to learn General English (GE) but only those features of the language which immediately related to their academic studies. Many interesting experiments in materials development derived from practice, as had traditionally become the case in English as a Foreign Language (EFL) teaching. Underlying these studies was the notion that language needs to be taught for specific purposes so that the nature of the subject discipline defined the framework. It defined the content, the discourse and the linguistic and study skills needed. A range of features was identified through specific linguistic analyses.

Further developments occurred in English for Science and Technology (EST) - the first branch of EAP. The common aim was to economise on the range of language and skills as far as possible and to maximise the learning of skills through carefully selected technical vocabulary and linguistic structure. The materials

varied in the degree to which they prioritised topic or skills and in the degree of specificity of topic. However problems were discovered: the main one being that the nature of the subject knowledge could be completely lost because of the emphasis on skills' manipulation and using technical language within too limited a context. It was realised that students were hindered from gaining a holistic understanding of their chosen discipline when using the target language and were not able to transfer what they learned to their target context.

While teaching on a preessional EAP course in another university at the beginning of the 1980s, I became very interested in the innovatory attempt that was being implemented to assess non-native speaker students' level of English use with the subject content as the base (Howe 1993). This was an integrated-skills examination task, which required an essay to be written within a given time using audio and written texts as information inputs. The essay was assessed according to the candidate's ability to address a specific task instruction. This seemed to me to have a great deal of potential in helping students integrate into the academic community because it attempted to emulate important features of the target context so that the link with the students' academic needs was clearly foregrounded. The approach was holistic and learner-centred, and seemed to encourage learner autonomy. From a research perspective, I felt that such activities should be further investigated as a means of addressing the needs of international students coming from other cultural backgrounds.

Since that time I have frequently been engaged in developing and using integrated-skills tasks in a number of collaborative studies during preparatory courses, both overseas and in the UK. To me these experiences always seemed to merit much deeper investigation of student responses than was ever possible during the normal pattern of teaching. From them has emerged a belief that three inter-related foci are fundamentally important to EAP pedagogy: the development of second language use, the potentially rich context of task-based learning and the students as independent learners and contributors to further knowledge. This belief has been reinforced through working within an environment where international students work alongside home students and are subject to the same academic conditions.

An important outcome of the early experiments in the seventies and eighties has been a growing awareness of how complex the problems encountered by these students during their studies really are and is well depicted by Howe (1990) in discussing her experiences with overseas students preparing to study law. The perceptions of mainstream tutors, English support tutors and the students themselves are frequently characterised by an unintended, so-called 'gap'. In the EAP context, the main task is to provide specific preparation and guidance for the mainstream academic context, whereas, in the real context of academia, the emphasis is on survival and success or failure (Brookes & Grundy 1990). But, despite the fact that the preparatory context is designed to provide a smooth transition into higher education (Swales 1990), the unintended 'gap' still exists.

The differing perceptions of the main EAP approaches taken to helping students adjust to the British university context and the problem of the gap are well portrayed in the conclusions arrived at by Lea and Street (1998). They summarise the developments in terms of three different approaches. The first is the 'study skills' approach, where students are envisaged as needing to develop certain linguistic and study skills

separately and student writing is seen as a 'technical and instrumental skill'. Then emerged the 'academic socialisation' approach, where the students are regarded as needing to acculturate to the university context and the university is viewed as an institution with a homogeneous culture, whose 'norms and practices have to be learnt'. Both these approaches are still adopted in some EAP contexts, where practical constraints, limit the possibilities of penetrating the issues more deeply.

The third is an 'academic literacies' approach, which views student learning in the university as concerned with 'issues of epistemology and identities'. It recognises the university as an institution, composed of a variety of dominant academic practices, which are distinguished by the different 'fields of study'. Here, most students, including home, UK-educated students, have to adjust their ways of working when they move from one setting to another to meet differing academic demands. In contrast to the other two, this third approach attempts to highlight the difficulties that students encounter e.g. a misunderstanding of the requirements made of them, seemingly contradictory views of the quality of their essays, a loss of identity, etc. While this approach provides no answers, it does at least suggest a way forward for understanding the complex causes and effects on students' lives of those difficulties. It also suggests that the problems are inherent in the institution rather than that students are deficient in some way.

In recent years there has been an escalation of research into the difficulties that all students encounter in coping with the academic discourse practices in their higher educational institutions (see Jones et al. 1999, Ivanic 1999, Lea 1995, Lea & Street 1998). As several authors in Ryan and Zuber-Skerritt (1999) emphasise, international students come with their own expectations and concerns, having made considerable sacrifices in some cases and will understandably seek to complete their studies in the shortest time possible. These authors describe how these students become aware of differences that they cannot understand, leading to feelings of disorientation, isolation and marginalisation, which can result in serious health problems. Language problems are identified as being the cause of their difficulties. However, Hermerschmidt (1999) argues that underlying these language problems' is a lack of transparency of institutional practices, which separates the 'insiders' from the 'outsiders' and seems to be due to more covert issues.

All students have 'an integrative need' (Gardner & Lambert 1972) to belong to their academic community, to assert their identity and engage with it fully. Such factors can directly impinge on their second language use. International students are unlikely to have received any previous training in addressing the complexities of coping with British university academia (Low 1996). The way they set about their main academic studies at the outset can have a significant bearing on the quality of their performance throughout their courses and consequently determine their final results (English 1999).

These are the concerns that have inspired my thinking about using a second language in an academic context and that underlie this thesis. My proposal is to learn more about how international students adapt during a preparatory course and to do so through adopting the task-based approach.

1.3 The organisation of the thesis

The thesis has twelve chapters. Chapters 2 and 3 introduce the main theoretical issues. In Chapter 2, I explore the relevant literature that provides the theoretical background. In Chapter 3, I draw out the key aspects of the literature that underpin an EAP, integrated-skills, task-based course.

The next three chapters present the methodology of the study. In Chapter 4, the key points discussed in the previous two chapters are brought together to identify the research questions. Then these are presented and considered in terms of the methodology of the research. Chapter 5 introduces the research design of the whole study and then presents the methodology for collecting the data. Chapter 6 presents the methodology for analysing the data and then presents a critique of the methodology and the methods used. (Further details are given in the appendices.)

The following four chapters present the results of the data analysis in terms of student profiles. Chapter 7 provides a guide to the three profiles. Each one of the following three chapters, 8, 9, and 10, provides the main data and the analysis as a separate profile for each of the three students. (Further data are given in the appendices.)

In Chapter 11, the findings of the study, both substantive and methodological, are presented to address the research questions and are then taken up and discussed in the light of other people's work in the field. In the concluding chapter, Chapter 12, the findings are summarised and then discussed in terms of the possibilities for further research and the implications for teaching.

CHAPTER 2

THEORETICAL CONSIDERATIONS FOR THE STUDY

2.1 Introduction

This study takes as its starting point that language is always used in context, never in isolation, that the context can provide explanations for the nature of language use but that the notion of context is extremely complex. This chapter first explores this notion in relation to language use and then later in relation to second language use. Then it considers the pedagogical issues concerned with students making progress in their second language use.

The main theoretical perspectives that have informed this study are drawn from sociolinguistics, ethnography, cognitive psychology and socio-cultural theory. We shall see that phenomena connected with first language acquisition and use have contributed to highlighting the complexities involved in investigating the enhancement of adults' second language use against the backdrop of learner-centred pedagogy.

2.2 The Importance of Context

In 1923, the social anthropologist, Malinowski, first highlighted the importance of 'context' in explaining the way society operates (see Malinowski 1946). His work, followed by that of the linguist, Firth (1957, 1964), provided a basis for developing a useful framework for defining context in terms that are relevant to language use. Both Malinowski and Firth have been highly influential in enhancing our understanding of why language needs to be studied in context rather than in isolation.

Malinowski (1935) distinguished between two types of context: 'the context of situation' and 'the context of culture'. In 'the context of situation', language is used to convey meaning and 'the context of culture' provides the historically situated framework where language is used for 'phatic communion', to display a sense of societal belonging (1935). Firth (1964) emphasised the importance of the situational context in examining how language is used. He drew on Malinowski's distinction to explain the nature of the situational context in order to understand language use thus: 'The patterned processes of situations in which language behaviour is dominant are dynamic and creative.' (1964: 111). This dynamism and creativity could be explained by the fact that ' "meaning" is a property of the mutually relevant people, things, events in a situation.' (1964:111). Firth (1957) described language events as having a three-fold set of broad parameters:

- 1 The relevant features of participants, persons, personalities
 - a Verbal actions of participants
 - b Nonverbal actions of participants
- 2 The relevance of objects and nonverbal and non-personal events
- 3 The effect of the verbal action (1950 quoted in 1957:182)

In other words, language events are extremely complex. Firth shows that each parameter provides a means of examining a language event but does not provide the full picture on its own.

Hymes (1986), from an ethnographic perspective, developed the notion of *the speech community* as 'a necessary, primate term in that it postulates the basis of description as a social, rather than a linguistic, entity' (p54) thus claiming that the language of the speech community can be described as a schema of the components of speech acts where the form and content of the message are central. The other components are: *the situation*, comprising the physical and psychological circumstances (called 'setting' and 'scene' respectively); *the participants*, who comprise the addressor and addressee, where the addressor is the speaker (or sender) and the addressee is the hearer (or receiver or audience) and whose relationship is culture bound; *the purpose* where the ends are outcomes and goals; *the key* (tone, manner or spirit corresponding roughly to modality); *the channel* (medium of transmission) and form (code, register); *the norms of interaction and interpretation*; *the genre* (formal characteristics that describe a specific convention) (pp59-65).

Following Malinowski, both Firth (1964) and Hymes (1986) helpfully signal the dynamic and creative nature of language use by taking account of situational factors as embedded in cultural constructs. The context of situation presents itself at a particular point in time whereas the context of culture evolves over time. Similarly, Street (1993) points out that culture is 'an active process of meaning making and contest over definition, including its own definition.' (p25). The cultural context frames the situational context and each situation shapes, reshapes, modifies, changes or transforms the cultural composition of the community. Thus, elements of the situation become a part of the constantly changing culture, which accounts for the essentially phylogenetic and ontogenetic nature of language use.

Turning to the EAP context, Swales (1990) uses the term *discourse community* rather than 'speech community' to describe the sociolinguistic grouping of participants that share the same general academic goals. I find this useful because 'discourse community' suggests that different modes of linguistic communication may be used creatively to bring about cultural change. A more complex perception of discourse is highlighted by Gee (1996), who foregrounds the importance of context in language use by distinguishing between 'discourse' (small 'd'), which refers to the language that is used to convey meaning, and 'Discourse' (capital 'D'), which includes 'much more than language' (1996:viii): rather the whole context within which the communication takes place – the nonverbal as well as the verbal – as signaled by Firth (1950). Gee explains that only by understanding the Discourse of the community is it possible to understand discourse, thus emphasising the inadequacy of linguistic communication alone to convey meaning. Fairclough (1995) adds a dynamic aspect to Gee's view by interpreting it to mean 'language use conceived as social practice' (p135). The culture of the community, interacting with the context of situation, determines the selection of the language that is used and understood, and what is communicated is embedded within an social construct that is constantly changing. Linguistic features are only ever capable of producing partial semiotic representations because: 'the (contextual) whole is in some way greater than the sum of its parts' (Street 1995:8).

We began this section by considering the nature and importance of context in our understanding of language use through outlining the components proposed by Firth and Hymes. Now we consider the individual participant as the language user in the community from an ontogenetic perspective as the next

step towards examining progress in language use.

2.3 The Ontogenetic Nature of Language Use

Two key perspectives on the ontogenetic nature of language use which are fundamental to this study are those of Vygotsky (1965, 1978, 1986), embedded in socio-cultural theory, and Halliday (1978, 1994), from a sociolinguistic approach.

The participants of a shared discourse community perceive, interact with, interpret and shape that community in distinct ways, according to their individual experiences. Vygotsky's research is about the intellectual development of the individual, his argument being that it can only be understood by taking account of interactions with other people in the social environment. For Vygotsky (1978), language mediates mental activity. It is a sign-based tool: the most important tool for transforming the relationship between individuals and their environment. Throughout ontogenesis, individual cognitive competence emerges from social interactive processes and language develops because it helps cognitive development to take place. Vygotsky (1965) describes the relationship between language and thought as 'a phenomenon of the interpsychic to intrapsychic functioning' (p133).

The relationship between language in use and its representation of the mind's activity is also examined in detail by Halliday (1994) from a sociolinguistic perspective. Like Vygotsky, he too views language as a tool for making meaning but his central concern is with the use of language itself, in how language is used to 'make meaning' (Halliday, 1975).

To this end, Halliday (1994) explores the contextually based schemata suggested by Firth and Hymes thus revealing the dynamic nature of language in use. He describes language as 'a complex semiotic system composed of multiple LEVELS, or STRATA' (1994:15, capitals as in the original): context, semantics, lexicogrammar and phonology, with grammar as central. Thus he developed a system of grammar to describe the nature of language use as 'meaning potential' according to three semantic components: the ideational, the interpersonal and the textual (1978). The ideational is a mental representation of what the producer intends to communicate and it is within this component that the relationship between language and thought is explored in considerable detail; the interpersonal describes how meaning is exchanged through the selection of language reflecting the relationship between the participants: the addressor and the addressee; the textual is the message that is actually produced through the channel and mode demanded by the situation. It is through these three metafunctions that Halliday emphasises the essentially ontogenetic nature of language use. There is a constant interaction between the mind and society, where society provides the linguistic clues as to how meaning making can be achieved and the mind selects from these accordingly. The three metafunctions are activated by three contextual components – 'field', 'tenor' and 'mode' – which combine to describe the whole context. 'Field' refers to the 'text-generating activity' and activates the ideational. 'Tenor' refers to the 'role relationships of the participants' and activates the interpersonal. 'Mode' refers to 'the rhetorical modes' being adopted by the participants and activates the textual.

Halliday's three systems describe the main areas of 'meaning potential' contained within a text, where 'text' is defined as 'the linguistic form of social interaction', written or spoken, according to a

simultaneous, as well as a successive, progression of meanings. His early systemic framework (1973, 1975) developed from a prime concern with the functional and notional aspects of utterances at 'clause' level where the clause is one unit of meaning (1994). It demonstrated how language could be viewed as a means of social interaction and how social structure could be viewed as determining language form and function. This led to a consideration of context and discourse at the level of text, oral and written (Sinclair & Coulthard 1975, Halliday & Hasan 1976). For example, Halliday and Hasan (1976) drew attention to the importance of considering features of cohesion and coherence in order to understand meaning represented through the textual function. The writer / speaker creates the content of the message through the ideational function and makes clear the links between ideas to the recipient, reader / hearer, through the interpersonal function using appropriate cohesive devices. The reader / hearer, ideationally, as interpreter of the message as text (Fairclough 1992), gives the text its meaning. Thus the text, whether written or spoken, is a dynamic construct (Halliday in Halliday & Hasan 1985:10) where the three metafunctions of language interact with one another. Further studies of Halliday's system (e.g. Fairclough 1992, Martin 1992, Hoey 2001,) have reinforced the strongly interdependent nature of these metafunctions in both the creation and understanding of text.

The relationship between language and what is in the mind is examined most powerfully within what Halliday terms 'the experiential function' (1994), which is a part of the ideational and arguably the most complex part of the metafunctions (p106). His framework for the experiential function is a 'transitivity system', which 'construes the world of experience into a manageable set of PROCESS TYPES' (p106): the mental, which describes inner experience – the world of consciousness; the material, which describes outer experience – the physical world; the relational, which describes the world of abstract relations; the behavioural – which describes behaviour; the verbal – which describes what is said; the existential – which describes the sense of being. In other words, the transitivity system has the potential to explain language in use as process within the cognitive field of the producer (Matthiesson, Slade and Macken, 1992).

The genetic approaches of Halliday and Vygotsky are similar in that both essentially view language as a cultural tool and a semiotic tool (Wells 1994). Wells notes how Vygotsky, drawing on cross-cultural psychology, takes an 'intraorganismic orientation' whereas Halliday, drawing on sociology and anthropology, takes an 'interorganismic orientation':

Halliday's concern is with the role of language in the formation of *social man*; his interest is in language as the prototypical form of *social* semiotic and, in particular, in the way in which the semantic system of language both finds its realization in the lexicogrammar and itself realizes the larger behavioral systems which constitute the social semiotic. Vygotsky, by contrast, was concerned with the development of consciousness and the semiotically mediated mental phenomena of which it is constituted. Although emphasizing the origins of language in social action, both phylogenetically and ontogenetically, his own research concentrated on the transformation of the child's mental, that is to say, internal, functioning that occurs when social or external language is internalized to become a more powerful means of mediating intellectual activity. (p75)

Hence Wells (1994) shows how these two perspectives are complementary thus providing a basis for a broader and deeper understanding of the complex nature of language development. Both Vygotsky and Halliday highlight the important role of context in understanding language use which suggests that their perspectives might be equally important in understanding second language use as well as first language

use. Contextual factors, both cultural and situational, are internal and external to the user with a continually dynamic interaction between the mind and the social grouping (or discourse community): from the very abstract / impressionistic to the concrete / factual level. In other words, this interaction is shaped by the composition of the discourse community, by the historically acquired experiences of the individual participant and by the relationships between the two.

In the following section we will consider how the work of Hymes on the communicative purpose of language combined with the Hallidayan interorganismic and the Vygotskian intraorganismic perspectives on language as a tool for making meaning might usefully provide a framework for examining progress in second language use.

2.4 Second Language Use and the Notion of Communicative Competence

Halliday's system addresses the complex issue of how language is used as an instrument for making meaning and we have seen its affinity with socio-psychology. Hymes perceives the use of language as a societal need where the goal is successful communication. We turn to this aspect now because Hymes' ethnographic perspectives have had a strong impact on understanding second language use.

In 1967, Hymes introduced the term 'communicative competence' to emphasise the point that making appropriate linguistic choices is more important for successful communication than grammatical accuracy. His argument was in direct opposition to Chomsky's mentalistic distinction between 'competence' and 'performance'. Chomsky (1965) defined 'competence' as abstract knowledge, the 'idealisation' of language in the mind which describes the ability to produce grammatically perfect sentences; and he defined 'performance' as 'the actual use of language in concrete situations' (p4) which may not be grammatically perfect and therefore not an exact representation of what the user knows. Whereas Chomsky (1959) was proposing an innate, psycholinguistic view of language acquisition, Hymes' ethnographic position (1986) was that language is an integral part of constructing society rather than as something which can be abstracted from it: competence being 'the ability to use knowledge' appropriately.

The impetus for a dramatic expansion in theories of and research into communicative competence over the past twenty-five years, particularly within Applied Linguistics, arose from a seminal article by Canale and Swain (1980), who, drawing on Hymes' original proposal, presented a detailed argument for breaking down communicative competence into three types of competences – grammatical, sociolinguistic and strategic (p28) – as a theoretical basis for developing a pedagogy of second language development. Their proposals have stimulated extensive debates about the definition of communicative competence (e.g. Canale 1983, Savignon 1983) in the light of developments in the theory and practice of communicative language teaching (e.g. Brumfit 1984, Berns 1990, Bachman 1990).

Canale and Swain (1980) describe grammatical competence as including:

knowledge of lexical items and of rules of morphology, syntax, sentence-grammar semantics and phonology... (together with) ...knowledge of how to determine and express accurately the literal meaning of utterances (1980:29-30).

They describe sociolinguistic competence as involving 'two sets of rules: sociocultural rules of use and rules of discourse' together with the knowledge of how to interpret 'utterances for social meaning' (1980:30). They define competence in applying sociocultural rules of use as the ability to select language which is appropriate to the sociocultural context; they describe competence in applying the rules of discourse as linked to the cohesion of language and coherence of its communicative function as discussed by Halliday and Hasan (1976) but suggest that this needs a clearer definition. They (1980) describe strategic competence, the third type of competence, as being 'made up of verbal and non-verbal strategies' (p30), which are individually selected ways of behaviour used to achieve successful communication when the learner needs to compensate for inadequate grammatical and sociolinguistic competence.

Various modifications on Canale and Swain's 1980 definition of 'communicative competence' have been discussed among applied linguists. For example, in a revised model, Canale (1983) suggests that discourse competence should be separated from sociolinguistic competence and regarded as a component of communicative competence in its own right. This is taken up by Berns (1990), who defines discourse competence as:

ability to recognise different patterns of discourse, to connect sentences or utterances to an overall theme or topic; ability to infer the meaning of large units of spoken or written texts (p89).

The reference to 'overall theme or topic' means that the notion of discourse competence usefully highlights how the contextual nature of second language use might be examined and understood which is important in this study.

A key area of communicative competence that has generated a great deal of research and contributed significantly to our understanding of second language use is strategic competence. Strategic processes were first highlighted as 'identifiable' mental processes by Selinker (1972: 37) within his psycholinguistic concept of 'interlanguage'. In the next section we will examine interlanguage in order to gain a fuller understanding of its contribution to the notion of communicative competence set out by Canale and Swain (1980), and particularly to the concept of strategic competence, which will be discussed in Section 2.4.2.

2.4.1 Interlanguage

The term 'interlanguage' was coined by Selinker in 1969 to identify a perspective on Second Language Acquisition (SLA) that has been highly influential in research and pedagogy and that has greatly contributed to an enhanced understanding of second language development. Selinker (1972) described interlanguage as an imperfect representation of the grammatical structure, i.e. the surface structure, in that the user's knowledge of the structure has not become sufficiently automatic (p212). It emerged through Contrastive Analysis studies and owes much to Corder's extensive work on error analysis (1973, 1981). Both Selinker (1972) and Corder (1973) pioneered a new perspective on grammatical errors in SLA, arguing that they should be perceived as positive, not negative, phenomena. Corder (1973) advocated the importance of appropriateness as well as accuracy in second language use, thus concurring with Hymes' (1972) anthropological perspective, which emphasises the centrality of

appropriateness in communicative competence. Thus, interlanguage has been found to play a key role in understanding second language development.

Selinker (1992) identifies two significant characteristics of learner errors derived from these studies; firstly, they are 'not random' but 'systematic' and, secondly, they are a positive not a negative factor (p151). Extensive research into interlanguage analysis has reinforced Selinker's main point, that interlanguage, by definition, is a transient state and contains features of the mother tongue, of other languages within the user's experience and of the target language itself. Thus it is both a system and a process whereby adult second language users build their own mental grammar systems, which reflect 'a transitional competence' (Corder 1981:67) and are somewhat unstable. Making errors is 'a way the learner has of testing his hypotheses about the nature of the language he is learning' (Corder 1981:11).

By understanding interlanguage to be a necessary part of second language development, it is possible to gain an insight into the ways that a student communicates and attempts to make meaning. Thus interlanguage cannot be conceived as a wholly psycholinguistic phenomenon. In attending to meaning rather than form, effective communication may be achieved through making linguistic choices that are appropriate to the context of situation at the expense of grammatical accuracy (Selinker 1972).

Selinker identifies five processes at play in interlanguage: fossilisation, back-sliding, language transfer, communication strategies and learning strategies. Of these it is the use of strategies that is of particular interest here.

2.4.2 Strategic competence

It is generally accepted that adults rely on their strategic competence much more than do children (Ellis R 1994, Bachman and Palmer 1995). Ellis R (1994), in his survey of strategies used by students developing their second language use, concludes that there is no clear-cut distinction between communication strategies and learning strategies. Indeed, studies in strategic behaviour in SLA are extensive. For example, Paribakht (1985), Faerch and Kasper (1987), Rubin and Wenden (1987), Bialystok (1990), O'Malley and Chamot (1990), Oxford (1990), Poulisse (1990), Kellerman (1991) and Bachman and Palmer (1995) have shown how strategic behaviour can be understood and classified in widely differing ways. Thus, as Ellis (1994) points out, arriving at an adequate taxonomy of strategies in SLA is extremely difficult, if not impossible.

For example, Poulisse (1990) and Parikbaht (1985) both adopted an interactional approach. Poulisse has found that second language users adopt strategies, which are not necessarily used only in second language communication but may also be applied in the first language. Parikbaht has found that students select strategies that 'interact with their different levels of knowledge sources' (p142) and that only some interactional strategies may be apparent from the discourse; others are not although they underlie performance. In other words, strategies are highly individual constructs driven by invisible factors that underlie students' intentions and depend upon students' perceptions of themselves in relation to the tasks they wish to, or need to, perform (Wenden & Rubin 1987). Therefore they can be examined from many different perspectives. The following summarised findings by different researchers, who have drawn on each others' perspectives on the nature of strategies, illustrate the point further.

O'Malley and Chamot (1990) classify learning strategies into three types: *metacognitive*, *cognitive* and *affective*, some of which are language-related while others are skills-related. The

classification arrived at by Oxford (1990) shows striking similarities. She has generated a large number of strategies, classifying them broadly into *direct* and *indirect* types, the latter having a management function. Direct types are sub-classified into *memory*, *cognitive* and *compensation*, and indirect types into *metacognitive*, *affective* and *social*. Each one is further sub-classified and considered in terms of how it applies to the four language skills: listening, speaking, reading and writing.

In contrast, Bachman and Palmer (1995) identify all strategies as:

a set of metacognitive components, ...which can be thought of as higher order executive processes that provide a management function in language use, as well as in other cognitive activities. (p70)

They classify them into: *goal-setting*, *assessment*, and *planning* (1995:71).

Bialystok (1990) and Kellerman (1991) advocate a psycholinguistic approach that examines cognitive processes in order to understand strategic behaviour. Bialystok (1990) makes a distinction between *knowledge-based* and *control-based* communication strategies which is very helpful. In 'knowledge-based' communication strategies, users explore the concept itself by providing information about it, whereas in 'control-based' communication strategies they attempt to express their original intention, drawing on any available resources to convey their meaning. This raises consideration of the nature and degree of conscious behaviour (Faerch & Kasper 1980 in Ellis R 1994:399): a point to which I shall return later.

From these findings we may follow Oxford and Anderson's conclusion (1995), that strategies are 'specific behaviours that students use, often consciously, to improve their progress in internalising, storing, retrieving and using the target language' (p203) and that therefore students select strategies according to their perceptions of the context and their own intentions in relation to it: a description that resonates with the research into approaches to learning to be discussed in Section 2.5.6 (see Entwistle 1997).

Drawing on a survey of the literature on learning strategies, Adey, Fairbrother, William with Johnson and Jones (1999) emphasise that strategies are not skills. Skills are actions which can be taught in order to perform a particular task. They can be described, learned and even perfected through practice. Strategies, on the other hand, are individual constructs that lead to the selection of particular skills to address a specific task. Indeed educational and cognitive psychologists have long regarded the importance of strategic behaviour across the curriculum (e.g. Adey et al. 1999, Nisbet & Schucksmith 1986, Schunk & Zimmerman 1994). *Self-regulated* learning strategies, for example, extensively researched by Zimmerman and Schunk (e.g. 1989), are widely accepted as very important. They are described by Zimmerman (1989) as

actions or processes directed at acquiring information or skill that involve agency, purpose and instrumentality perceptions by learners (p329).

This suggests that self-regulated learning requires motivation and efficacy (Schunk 1990).

We shall examine this and other pedagogical aspects of strategic behaviour in more detail later.

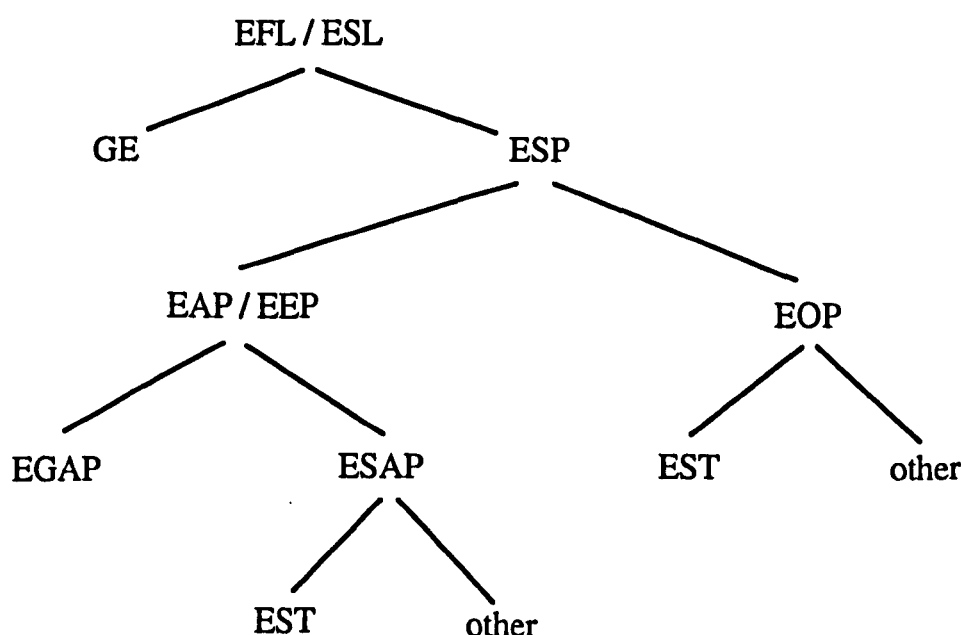
2.5 Developing Second Language Use

So far, I have considered the research dealing with the main issues that underlie an understanding of how second language use develops. Most important is the dynamic, ever changing context that is produced by the members of the discourse community. We can say that for language to be used as a communicative, meaning-making tool, second language users within a discourse community need to develop communicative competence through using their interlanguage and certain strategic behaviour. We now need to consider the pedagogical implications within the formal context of learning.

2.5.1 Context and pedagogy

The contexts of teaching and learning within which students develop their use of English as a second language have been classified in various ways. For example, Hutchinson and Walters distinguish General English (GE) from English for Specific Purposes (ESP) (1987:17). Robinson categorises ESP into English for Occupational Purposes (EOP) and English for Academic or Educational Purposes (EAP/EEP) with English for Science and Technology (EST) in both camps (1991:2). Jordan (1997) classifies EAP into two branches: English for Specific Academic Purposes (ESAP) and English for General Academic Purposes (EGAP). ESAP is concerned with the discourse genres of specific subjects and the task skills specific to the subject while EGAP covers general academic skills (e.g. listening and note-taking, academic writing, reference skills, seminar and discussion skills), general academic English register and style, and proficiency in language use (Jordan 1997:3). These categories into different branches are generally accepted as useful and can be represented diagrammatically as in Figure 2.5.1 below:

Figure 2.5.1: A classification of the different branches of EFL/ESL (English as a Foreign or Second Language)



As Figure 2.5.1 shows, EFL and ESL can be subdivided in the same way: into General English (GE) and English for Specific Purposes (ESP). ESP is usually subdivided into English for Academic or

Educational Purposes (EAP/EEP) and English for Occupational Purposes (EOP). EAP/EEP can be subdivided into English for General Academic Purposes (EGAP) and English for Specific Academic Purposes (ESAP). Both ESAP and EOP can be further subdivided into different branches of different fields of academic study or occupation – EST (English for Science and Technology) and others (e.g. Law, Business Management) – even further subdivided into more specific categories within these fields. This study is situated within ESAP because it is subject-specific – science – but not at a level that is exclusive to the study of science nor that necessarily involves the technical genre of science. This point will be discussed in detail in Chapter 5.

Some of the earliest, most exciting developments in course and materials design in EST, the oldest branch of ESAP, were pioneered by MacEldowney, Swales, Dudley-Evans, Widdowson and others during the seventies and early eighties. Their common aim was to focus on the lexicogrammar of the field and to maximise the learning of key study skills (e.g. note-taking at lectures, seminar participation, using references, organising assignments) through carefully selected technical vocabulary and linguistic structures which characterised the discourse genres of specific subjects at the appropriate level of academic difficulty. Language skills were classified according to mode: listening, speaking, reading, writing. By concentrating only on areas which were thought to be of immediate relevance to students' needs, thereby avoiding redundancy, course materials were developed which attempted to encourage learners to become competent in managing their academic studies much more speedily than they might in following a GE, language-graded, development programme. The materials varied in the degree to which they prioritised topic or skills and in how specific the topic should be within the subject.

A great deal was learnt about the genres of ESP texts from these bold experiments. For example, it was realised that materials at the appropriate degree of specificity of topic and selection of genre that would at the same time benefit all students were found to be extremely difficult to select; the skills did not necessarily transfer smoothly to the mainstream academic context; and frequently the perceptions of the materials' developers, the teacher and the students about the students' needs did not match.

Lea and Street (1998) criticise a study skills approach for being 'student deficit' because the students are expected to learn a set of atomised skills, isolated from their contexts of learning. They claim that 'the focus is on attempts to 'fix' problems with student learning, which are treated as a kind of pathology' (p.xxi). Hence the students do not get the opportunity to develop a holistic understanding of the target academic context and how they relate to it. Swales (1990) expresses a similar concern, arguing that each class group has a unique cultural ethos defined by the 'personal and often idiosyncratic ways' of the EAP teacher (p218). He also emphasises the need to help students to adapt to different learning contexts.

Another approach criticised by Lea and Street (1998) is what they term 'academic socialisation', which implies that students need to be enculturated into the academic community. In line with developments in the communicative approach within EG and EGAP, a number of models have been developed where two cultural contexts are considered relevant in second language development, one being the natural living environment and the other the classroom where second language learning is to take place. Some, like Schumann's Acculturation Model (1978), take account of two types of students: those who wish to be fully assimilated into the target culture and those who do not. The extent and

quality of second language development are affected by the degree of need and motivation to belong to a group, on the one hand, and the degree of feeling of comfort about a task that has to be performed in the second language, on the other. Others, like Gardner's Socio-Educational Model (1979), are based on the principle that second language learning in the classroom entails 'acquiring symbolic elements of a different ethnolinguistic community' (p193) as well as learning new information. Language aptitude and intelligence, in addition to motivation and situational anxiety, are considered to be variables determining language development. Such models have had a very positive influence on a student-centred approach to pedagogy. Lea and Street (1998) do not dispute this but argue that they stop short of addressing the 'deep language, literacy and discourse issues involved in the institutional production and representation of meaning' (1998), highlighting particularly the complexities of academic writing. Lea and Street claim that these models tend to assume that students need to be socialised into the dominant culture of the institution, which is perceived as homogeneous and where writing is perceived 'as a transparent medium of representation' (1998), strongly arguing that this is not the case. Their ethnographic views concern native and non-native speakers from diverse cultural backgrounds and emphasise the importance of recognising the existence of an underlying cultural context which shapes the discourse that is used which resonates with Gee's distinction between 'Discourse' and 'discourse' mentioned earlier.

The problems described above have often been attributed to a so-called 'gap', which is perceived to exist between the EAP context and the mainstream academic context (Brookes & Grundy 1990). Despite extensive research to date in the field of EAP, linked closely to practice, it is now often argued that the very process of working within the EAP context can perpetuate a distinctive, separate culture of its own, which can act as a barrier to operating in the mainstream learning context (Swales 1990). Swales perceives a need to create a closer relationship between ESP pedagogy and anthropological factors. He proposes 'a genre-based approach' which has three key concepts: that of *discourse community*, *genre* and *task*. He defines discourse communities as 'socio-rhetorical networks that form in order to work towards a set of common goals'; genres as 'classes of communicative events' which are 'properties of discourse communities' and 'genre-type communicative events' as 'processing procedures which can be viewed as *tasks*' (Swales' italics, 1990:9).

Lea and Street (1998) suggest that each field of study has a distinctive discourse community with its own 'literacy practices' and expectations. They further suggest that 'student writing and learning as issues at the level of epistemology and identities' need to be highlighted. Their stance presents a radical perspective on how student-centredness might be interpreted in second language development. Drawing on their research, Hermerschmidt (1999) argues that students need to be valued as original thinkers with their own identities, views, expertise, ways of learning, knowing and communicating. But in some universities this does not appear to happen according to Turner (1999), who further argues that the institutional expectations made of international students for whom English is a second language can undermine an understanding of their needs.

2.5.2 Language development and the learning process

Having examined those aspects of language use that have interested EAP researchers and practitioners, it is appropriate at this point to consider language development in relation to learning. From the

discussion so far, and particularly from the points made in the previous section, it is emerging that there is much to explore in student-centred learning. Bearing this in mind, we begin with two statements made by Halliday (1993) that summarise his central argument about language development within a theory of learning and underlie the thrust of this study:

the ontogenesis of language is at the same time the ontogenesis of learning. (p93)
and
of all forms of human activity, language is perhaps the one that is most perturbed by being performed under attention. (p94)

In the first statement Halliday emphasises that language development takes place because it is necessary as a tool for meaning-making and learning is a semiotic process. Learning takes place through a variety of semiotic means, of which the most important is language. Language as a semiotic resource can be carefully selected and ordered, even if subconsciously, for the intended meaning to be conveyed clearly. As learning progresses, language use must also progress.

In his second statement, Halliday is emphasising that, because learning is itself a semiotic process, the experience of learning is not constantly being construed. In other words, the language used to learn is not itself the focus of attention. If it were, it would cease to be a semiotic tool and this would hinder the learning process.

As Wertsch (1985) points out, our understanding of the student-centred nature of learning owes much to Vygotsky's interest in the relationship between interpsychological and intrapsychological functioning and in the potential development of the learner in relation to instructional practices. Learning is stimulated through the relationship between one individual and another, i.e. at the interpsychological level, and then changes take place in the learner at the intrapsychological level. This is realised in his theory of the Zone of Proximal Development (ZPD), which, as Bliss (1996) shows, was a significant breakthrough:

Until recently, children's spontaneous development had always been the major concern of the educator. Kozulin (1990) pointed out that for Vygotsky, psychological development does not precede instruction but depends on it: '....it (ZPD) taps those psychological functions which are in the process of development and which are likely to be overlooked if the focus is exclusively on the unassisted child's performance.' (p170, quoted in Bliss 1996:5).

The ZPD describes the distance between what the learner can do and what the learner is capable of doing with the aid of mediation. As Wertsch (1985) explains, Vygotsky sees the role of the instructor as a mediator, who, through understanding the learner's potential development, can provide the right kind of guidance that will enable a gradual transfer of control from the instructor to the learner through internalisation, which occurs through scaffolding (Bruner 1974). The learner internalises the scaffolds where possible and gradually gains control through the transformation of interpsychological processes into intrapsychological processes, which have different functions (Vygotsky 1978). One such process, which Vygotsky sees as having a key influence on the development of the individual in society, is language. His view on the nature of the interaction between thought and language is well-summarised by Newman and Holzman (1993):

The unity (meaning making / language-making / thinking) is what makes adaptation to

society (language-using) possible. (p136).

Many recent empirical studies strongly support this socio-cultural approach to learning and language development. For example, Wells (1999), from a classroom-based study of developing scientific understanding, claims that the act of writing plays a key role in assisting learners in 'formulating and extending their understanding of the activity in which they are engaged' (p309). Ivanic (1997) goes further, arguing in favour of a view of writing as a complex, socio-cultural process. Drawing on the academic literacies approach advocated by Lea and Street, she suggests in her study of eight mature students writing essays during their second or third year at university that mediating experiences, including the process of writing, develop students' identities as four different 'selves' in their different academic fields: the autobiographical self, where their identity is being shaped by background and 'developing life-history'; the discursal self, where their identity is an impression they convey in a particular written text; the self as author, where their identity is revealed in terms of 'the writer's position, opinion and beliefs'; and, fourthly, 'possibilities for self-hood in the socio-cultural and institutional context' (pp24-29) where their identity is socially shaped by their engagement with the opportunities and constraints afforded within the context of study.

The topic of student identities highlighted by Ivanic undoubtedly signals an important direction for further research that is beyond the scope of this study. However, these perspectives of the student as writer in Higher Education provide a useful, under-explored backdrop to the enhancement of second language use, contributing, as they do, to our understanding of the nature and complexity of the learning context. They provide useful clues about the nature of learning in general, with language taking on a central role as a tool for communicating meaning and developing thought. Hopefully, they can in some way contribute to understanding language use in a way that extends the extensive empirical work based on linguistic theories.

A fruitful area of research has emerged from communicative competence approaches: an area that reveals similarities in, and hence benefits from, general learning theories where student-centredness is foregrounded.

2.5.3 The contribution of communicative competence debates to second language development

According to Canale and Swain (1980), communicative competence requires

a synthesis of knowledge of basic grammatical principles, knowledge of how language is used in social contexts to perform communicative functions, and knowledge of how utterances and communicative functions can be combined according to the principles of discourse. (p20)

and

communication should be based on sociocultural, interpersonal interaction, to involve unpredictability and creativity, to take place in a discourse and sociocultural context, to be purposive behaviour, to be carried out under performance constraints, to involve use of authentic language, and to be judged successful or not on the basis of behavioral outcomes. (p29)

Their focus on communication in a sociocultural context signals later developments (see Wells 1999, Werstch 1998), following on from Vygotsky's work (1978, 1986), and further explorations into the nature of communicative competence (Lantolf 2000). These developments reinforce the view that

language use needs to be understood in terms of the individual interacting with the environment where everything that is involved in meaning making is a part of the overall contextual framework.

As already mentioned, the importance of learning to communicate has dominated second language pedagogy since the early 1980s. Communicative approaches during the previous decade led to innovative methods: each contributing to a deeper understanding of developing second language use: e.g. 'The Silent Way' (Gattegno 1972); 'Counselling-Learning' (Curran 1976); 'The Natural Approach' (Terrell 1977) 'Suggestopaedia' (Lozanov 1979) and later 'The Total Physical Response' (Asher 1988).

Thus, during the 1980s, Communicative Language Teaching (CLT) became a very popular concept, but, although reasonably successful, failed to live up to expectations. Brumfit (1984) explains that this is due to tensions between language form and language use, particularly when it comes to evaluation. He proposes a broad distinction between fluency and accuracy as the key indicators of performance:

Language display for evaluation tended to lead to a concern for accuracy, monitoring, reference rules, possibly explicit knowledge, problem solving and evidence of skill-getting. In contrast, language use requires fluency, expression rules, a reliance on implicit knowledge and automatic performance. (p51)

Focusing on accuracy means focusing on form and manipulating 'the linguistic code consciously' whereas fluency means focusing on concept and using language unconsciously in a way that might involve risk-taking. Communicative-based syllabuses have attempted to correlate certain functions and notions with forms of language (notably Munby 1978) which have been helpful in understanding language use. But such taxonomies seem unnecessarily complex and unconvincing as a lead into developing communicative competence. They tend to encourage a view of language as a finite and static system where memorisation and rote learning of atomistic elements might dominate over communicative objectives.

Halliday (1994) argues that 'There is always a problem when language is turned back on itself.' (xxiii) in emphasising that language is used to negotiate meaning. This resonates with developments in communicative competence pedagogy. For example, Savignon emphasises the importance of students' goals and the target contexts of use (1983) basing her approach on four components of communicative competence: grammatical, sociolinguistic, discourse and strategic, as identified by Canale (1983). She advocates that the four language skills be integrated and discrete elements and skills be ignored. Other approaches suggest a more hierarchical relationship. Bachman (1990), for example, foregrounds strategic competence, describing it as incorporating language competence (knowledge of language) and knowledge structures (knowledge about the world), with language competence comprising organisational competence and pragmatic competence.

Similarly, Widdowson (1979) encourages students to apply familiar, first language skills to second language use in order to develop their strategic competence and enhance their understanding of how the language is used. His argument is that if students are encouraged to focus on the interpretation of meaning through using pragmatic skills their grammatical competence will develop for two reasons. Firstly, cultural and social differences among individuals are intensified in second language development so that miscommunication can easily occur. Thus the negotiation of meaning is shown to be a central issue in mutual understanding and effective communication. Secondly, the communicative purpose of

language means that 'we are generally called upon to produce instances of language use' (p3) and it makes little sense to attempt to practise using particular linguistic forms. This reinforces Halliday's point (1994) about a problem when 'language is turned back on itself' (xxiii).

Widdowson's work (1979, 1989) has encouraged a greater concentration on cognitive skills and problem-solving activities within a communicative framework. He (1989) suggests that language use may involve dual modes of processing depending on perceived priorities: one a lexical mode of communication, which draws upon 'a capacious, well-organised, and very rapid memory system' when the priority is perceived as 'accessibility and time pressure'. The other is analysability and a concern for form and planning when the priority is perceived as 'exactness or creativity' in using linguistic structure. Skehan (1996) observes that students switch between the two 'to take account of whatever processing demands are most pressing' (p42).

One influential research project that took account of cognitive factors was the Communication Teaching Project (CTP) undertaken by Prabhu in South Indian Schools between 1979 and 1984. He (1987) describes using a task-based, 'procedural' methodology i.e. one involving activities in sequence comprising: pre-task activity, task activity and feedback and found that this encouraged second language use in situations suitable for first language users. His findings have led to significant developments in understanding task-based learning, which will be discussed further in Chapter 3.

The concept of communicative competence has had a powerful influence on evaluating students' second language use in terms of whether or not, to what extent and how, students can communicate effectively as I shall discuss later. More recent developments, signaling the complexities posed by taking account of the context in which communication takes place, have identified further problems that make it difficult to imagine how to approach evaluating second language use successfully. Instead, the four components of communicative competence might indeed have their constituent strengths realised through their inter-relatedness so that it becomes possible to develop a useful scheme of analysing and evaluating 'text' as 'message', and as the outcome of a process (Matthiessen, Slade & Macken 1992). The concept of strategic competence, for example, could be an important factor in examining the process. This would then approach a combined socio-cultural, cognitive and socio-linguistic perspective where Halliday's multifunctional system is complemented by Vygotsky's emphasis on the intraorganismic.

2.5.4 Second language acquisition and second language learning

One of the most controversial approaches which consider context in the development of second language use is to be found in the work of Krashen (1981, 1987), who questions how the process of acquiring a second language in natural contexts can inform formal learning contexts. In doing so he highlights some of the key problems that have bedeviled second language pedagogy.

We begin with 'The Natural Approach', first introduced by Terrell (1977) and further developed by Krashen and Terrell (1983). This approach takes a minimalist stance on the control of second language development in the classroom. First and foremost, comprehension must precede production. A context favourable for second language acquisition is created firstly through the presentation of comprehensible input and through students becoming engaged in activities such as problem-solving, playing games and discussing ideas. Comprehensible input is understood to be related to students' previous knowledge and

based on topics which are familiar, interesting and relevant. Grammar is not deliberately sequenced and only the second language is used by the teacher. In other words, Krashen and Terrell are suggesting ways of focusing on meaning that resemble language use in natural situations for developing second language use in the classroom.

Krashen's controversial contributions to language development pedagogy have been much criticised for lacking detailed analysis. However, they serve well to highlight the much more complex task of examining language use in context, as opposed to examining language use divorced from context through a concentration on atomistic linguistic features (Brumfit 1984).

For example, in making a distinction between acquisition and learning, which we shall attend to later, Krashen's Input Hypothesis (1987) 'attempts to answer the crucial theoretical question of how we acquire language' (p8). It states that the input must be comprehensible, at a level (i+1) that contains structure which is only slightly above the current level of the learner's competence (i). Comprehension can be achieved with 'the help of context or extra-linguistic information.' (p21). McLaughlin (1987) strongly criticises this hypothesis for being 'untestable' because the key concept, 'comprehensible input', is not defined: 'a non-existent theory of acquisition sequences' is assumed. Krashen's response (1989) is that acquisition cannot be controlled.

Dunn and Lantolf (1998) cite a number of discussions drawing comparisons between Krashen's Input Hypothesis and Vygotsky's ZPD. However, they argue that, scientifically, the two theories must be regarded as 'incommensurable theories' since they derive from different paradigms in Kuhn's sense (Kuhn:1970) and therefore must be understood as distinctly separate constructs. As already mentioned, the arguments with which Krashen defends his hypothesis may not satisfy the rigour demanded by the applied linguist, whereas Vygotsky's concept of the ZPD is situated within a broader psychological perspective that has been extremely influential in general educational research and practice.

Returning to Krashen's theories on language acquisition (1987), he explains that there are three stages of internal processing. One is based on the principle that students possess an 'affective filter', first proposed by Dulay and Burt (1977). If high, it will hinder language development; if low, it will encourage language development. Krashen identifies three attitudinal variables as a part of the filter: motivation, self-confidence and anxiety. If students are highly motivated, self-confident and prepared to take risks, their affective filters are low thus creating favourable conditions for language development to take place. McLaughlin objects that the filter is neither explained nor clearly linked to individual differences in language learning. The second stage of internal processing takes the form of an 'organisier' operating at a subconscious level to structure the grammar of the second language system, thus resembling the functioning of Chomsky's language acquisition device (1972:113, see Dulay, Burt & Krashen 1982). The third stage of internal processing is 'monitoring' e.g. self-correction, which enables students to improve their language use either by self-critical reflection or by teacher input. Learning functions only as a monitor, 'or editor', which makes adjustments to the 'acquired competence' before the utterance is made (Krashen 1987:16). Filtering and organising, not monitoring, are perceived to be mainly responsible for the successful acquisition of second language communication skills.

Krashen (1981) claims that 'attitudinal factors and motivational factors are more important than aptitude' for developing communicative abilities; and that 'conscious learning makes only a small contribution' (p5). By 'conscious learning' he means a focus on the accuracy of linguistic forms and

lexical patterns rather than on meaning. In their taxonomy of attitudinal factors, Dulay et al. (1982) draw up two main categories: motivation and emotional states. They find that students vary in their motivational needs and in the degree to which they are influenced by internal and external factors. They cite studies of emotional needs revealing that the more relaxed and the less anxious learners are the speedier their second language progress is likely to be.

Two helpful perspectives that concern affective factors contribute to these discussions. Firstly, Schuman (1994), taking a neural perspective of second language and bilingual development, examines the relationship between affect and cognition. He concludes that they are 'distinguishable but inseparable parts of a mutually interacting system, in which each constrains the other' (p240). This is an important consideration in terms of our understanding the pedagogy underlying the development of communicative competence.

Secondly, from a not dissimilar perspective of learning in general, Schunk (1990) emphasises the importance of students being motivated to 'value learning for its own sake' rather than to regard it as the acquisition of a set of skills. As already mentioned in Section 2.4.2, he links motivation with efficacy, viewing them as 'interacting mechanisms' in the sense that the one sustains the other in learning. Schunk describes motivation as referring to 'the process whereby goal-directed behaviour is instigated and sustained' and efficacy as denoting 'individuals' beliefs in their capabilities to exert control over aspects of their lives.' (p3). Schunk suggests that the link between motivation and efficacy could impact on strategic behaviour, as mentioned earlier and which will be discussed further in the next section.

Returning to Krashen (1976, 1989), one key area of controversy has been his distinction between acquisition and learning as two separate processes that co-exist in adults. Krashen describes acquisition as a subconscious process and learning as a conscious process. His argument proceeds as follows. The attempt to communicate is a subconscious process; attending to memorising the rules of the language is a conscious process. Therefore acquisition needs to precede learning. Adults do not lose the capacity to acquire other languages in the way children acquire their first language i.e. subconsciously. Rather, that capacity is retained and remains a powerful force in second language development.

The challenge to Krashen's acquisition/learning distinction by critics such as McLaughlin (1987), Schmidt (1994) and N Ellis (1995) is an important one. They prefer acquisition as an umbrella term for language development contending that language learning is always taking place but that it may be implicit rather than explicit thus signaling the difficulty of understanding the learning that actually takes place.

The same critics claim that Krashen's hypotheses are too vague to stand up to scrutiny. Their scepticism is difficult to challenge because of the lack of empirical evidence, as already mentioned. But although Krashen's concern is with the pedagogy that underlies language development, he is more concerned 'with *context* and *purpose*' (Van Patten 1994), than with learner behaviour. Thus, he neglects a fundamental aspect of the wider picture, which is better captured within a Vygotskian, sociocultural framework, as Wertsch (1991) points out.

Before stepping back to take in that wider picture, it is useful to consider further the role of consciousness in second language development through the work of Schmidt.

Schmidt (1994) suggests cautiously that 'consciousness as a subjective phenomenon and language learning may...be intimately connected' (p22). He suggests that four, inter-related and

interacting types of consciousness could be important: intentionality, attention, awareness and control.

Like Krashen, Schmidt contrasts intentional with incidental learning in so far as they lead to different knowledge types. He links this with the second type of consciousness, attention, suggesting that if the focus of attention is on conveying a message or making meaning, the language development process will be incidental not intentional: i.e. will take place unconsciously. Human beings are selective in focusing their attention because attention is 'capacity robbing' and, in second language development, 'learners process input for meaning before they process it for form' (VanPatten 1994:32-33). Thus content words take priority over grammatical items. VanPatten supports Krashen in suggesting that research should focus on attending to input for meaning so that it is possible to investigate the 'building up of a linguistic system that links form and meaning.' According to Schmidt (1994), Tomlin and Villa (1993) describe three different levels of focusing attention, all of which involve attitudinal factors: alertness related to the intention to learn, which is the most general level; a readiness to deal with incoming stimuli; and, at the most specific level, orientation, i.e. alignment with certain stimuli. According to Bialystok (1994), these are favourable conditions for developing awareness, the third type of consciousness referred to by Schmidt (1994).

As Schmidt suggests, of the four types, awareness is the term most usually associated with the idea of consciousness in second language acquisition. It seems particularly important for understanding how the second language works in context. For students, this means developing a meta-awareness of the contextual aspects associated with language development including their own behaviour and performance. Thus students need to reflect on their actions (Klein 1986). A critical awareness helps to sharpen their attentional focus and vice versa. Both awareness and attentional orientation help to control the processing of appropriate knowledge.

In the field of cognitive-developmental psychology, Flavell (1979) has shown that awareness helps to enhance meta-cognitive knowledge. He describes three types of meta-cognition involved in learning that Wenden (1987) claims can be applied to language development:

- 1 knowledge about self as learner which might include cognitive and affective considerations: strengths and weaknesses in linguistic and sociolinguistic competence; level, nature and speed of progress; and learning style.
- 2 knowledge about the task in terms of task type, task demands and learning purpose which might include the demands and purpose of a particular task and the 'nature of the content to be learned' (Wenden 1987).
- 3 strategy knowledge in terms of selecting a certain strategy for a particular purpose, which might include knowing about the 'effectiveness of strategy' for a particular task and the 'principles underlying the choice of strategy' (Wenden 1987).

The fourth type of consciousness, control, is the second of two cognitive constructs suggested by Bialystok (1994) for explaining input and output processing. The first is analysis. She describes the process of analysing knowledge as a process by which

mental representations that were loosely organised around meanings (knowledge of the world) become rearranged into explicit representations that are organised around formal structures (p159)

She explains that this happens when attention is focused on a specific mental representation 'relevant to a particular purpose' (p160). The development of control brings about positive change in selective attention so that learners become 'more capable of executing their intentions and directing their performance' (p161). As learners increase their control over their learning, there is less need to exercise it; thus automaticity develops. There is a gradual transition from controlled to automatic processing (Schiffrin and Schneider 1977): a transition which is generally understood to be central to language learning (McLaughlin, Rossman & McLeod 1983). In the early stages of second language development, in order for the intended meaning to be clearly conveyed, much effort is required. The meaning is expressed through carefully controlling the selection of language. With practice, expressing meaning becomes more automatic thus leading to fluency.

The issues discussed here contribute to our understanding of strategic behaviour, which is the focus of the next section.

2.5.5 Developing strategic competence

In Section 2.4.2, the complex, individual nature of strategies and their influence on learning were highlighted which leads us to ask how students might be encouraged to develop appropriate strategic behaviour to help their development.

From a cognitive perspective, during the acquisition process, changes in the representation of knowledge occur and, at each level, appropriate strategies need to be selected (Bialystok 1993). This is why, as Kasper (1996) claims, training is not possible because strategies are reflections of 'underlying psychological processes', which cannot be understood externally (p147). However, it is generally accepted that focusing on surface structures of discourse, i.e. the grammatical features that are used, is likely to enhance neither strategy use nor the ability to communicate (Canale & Swain 1980, Tarone & Yule 1989, Kellerman 1991).

Paribakht (1985), however, warns that communications strategies may be inappropriately used by students with limited target language knowledge to:

exploit their limited competencies in the target language, resulting in the production of deviant interlanguage forms (p142).

He suggests that this is because they might make superficial judgements about selecting strategies based on their perceptions of what is important, which may affect the 'grammatical accuracy and informative value' (p142) of their message as text.

Kasper (1996) suggests that what could help students is the provision of explicit feedback for communicative activities based on rich input within the classroom. This could then be followed by opportunities to reflect on learning experiences, as Oxford suggests (1996). Students' perceived degree of success might provide them with information about the quality of their performance, sociolinguistically and strategically. Then they might be equipped to develop a critical approach to their strategic behaviour, which would thus lead to an enhanced understanding of the demands made of them in using their second language, as Klein suggests (1986), and to consciously selecting more appropriate strategies. Indeed, within the general pedagogical context, Baird (1986:280) has found that enhanced meta-cognition permits students to gain more control over their own learning which, in turn, leads to

generally enhanced learning and academic achievement. By using their meta-cognitive knowledge, students learn to select strategies that are appropriate to their own learning in terms of their changing levels of progress which means that adapting their strategic behaviour to their stage of development may be very important in their learning (Flavell 1979).

Taking an ethnographic view on the use of strategies, Purdie, Hattie & Douglas (1996), from their cross-cultural study of Australian and Japanese students, suggest that:

students who are more proactive in their learning, that is, who demonstrate greater overall use of learning strategies, are more likely to think of learning as a complex cognitive process (p97).

They also claim that students' conceptions of learning and the strategies they use 'vary in educational contexts that are culturally different.' (p98). Their observations are helpful in understanding the strategic behaviours of international students.

In Section 2.4.2 we noted the difficulties of drawing up useful taxonomies of strategies. However, Bialystok (1994a) suggests a simple, broad distinction by proposing that students can be classified into deep and surface learners, where deep learners are conceptual thinkers, able to reach a higher level of analysis than surface learners and able to develop a familiarity with the meta-language to talk about their strategies. We now turn to consider this interesting point further.

2.5.6 Approaches to learning

The terms, 'deep' and 'surface', were first arrived at by Marton and Säljö (1976) to classify students' approaches to learning in higher education and they did indeed find that a deep approach benefited their learning much more than did a surface approach. The original research led by Marton in Gothenburg was an investigation into students' reading of academic articles, based on a phenomenographic approach. The students were asked to read an article in their own time and then to be prepared to answer questions about it. Their answers revealed different levels of understanding, which were categorised as atomistic or holistic. It appeared that some students had concentrated on discrete bits of information whereas others had tried to make sense of the article as a whole. Marton and Säljö (1976) pursued their investigation by interviewing the students and concluded that the crucial factor was the students' intentions rather than their levels of processing. Thus they arrived at the terms deep and surface to describe the students' learning approaches: a deep approach emphasising an intention to learn for personal academic interest and development and a surface approach emphasising a desire to satisfy the demands of a task.

Their findings and the research into examining students' learning experiences that they have generated (see Marton et al. 1997) provide helpful definitions that can guide investigations into student behaviour in formal settings. The deep approach is defined by an intention to seek *understanding*. The surface approach is short-term and depends on *reproducing* what is thought to be required by the lecturer (Entwistle in Marton et al. 1997:19). A third approach is suggested: a strategic approach, which is driven by the intention to *maximise grades*, partly by systematic management of time, effort and study conditions, but also by manipulation of the assessment system to the student's own advantage. In other words, switches may be made between deep, strategic and surface approaches to address different needs at different times. Marton and Säljö (1976) relate learning approaches to outcome and Laurillard's

findings (1997:137) support their conclusions: that a deep approach leads to a higher level of learning outcome than does a surface approach. As both Entwistle and Hounsell (in Marton et al. 1997) show, this means that approaches are an important consideration in learning tasks and assessment. A key question could be whether learners can be encouraged to develop a deep approach.

A further interesting study worthy of mention was carried out by Webb and Prosser (1994). It was based on students preparing an essay over a period of time. Webb and Prosser combined a phenomenographic study of students' approaches to their learning with a Hallidayan analysis of the essays. They concluded that a deep approach accompanied a better quality of essay than did a surface approach.

2.6 Reflections

The purpose of this chapter has been to examine the so-called gap between international students' needs and their academic context with reference to the field of EAP: needs which began to be addressed seriously three decades ago. Since then, developments within and related to EAP have revealed an increasing complexity of the issues involved, particularly in academic writing. I have now considered three main areas that I believe to be important in addressing these issues: the context-dependent nature of language use, communicative approaches in second language acquisition and student-centred developments both within and outside EAP pedagogy.

Concerning the first two, I have drawn on two main strands that I believe are central to explaining second language use. One is the dynamic nature of language use through the complementary perspectives of Halliday and Vygotsky. From their respective standpoints, the former sociolinguistic and the latter sociocultural, they illuminate the nature of first language use in context. The other is the nature of second language use through a multi-perspectival view of communicative competence and its impact on pedagogical thinking: the two most useful concepts for this study being discourse competence and strategic competence. Discourse competence is interesting because it can be examined through a Hallidayan systemic functional approach. The multi-stratal nature of this approach permits written discourse features of interlanguage to be understood at different levels: at the lexicogrammatical level, at the level of text and within the learning context. The methodology of a suitable analytical framework will be discussed further in Chapter 5. The extensive studies concerning strategic competence signal its important role in producing text in terms of the complex, individual, covert aspects of the writing process.

Thirdly, I have considered developments that have taken place within EAP pedagogy, some based on perceptions of students' needs as predominantly cultural and others as predominantly linguistic: using, for example, a 'study skills' approach, an 'academic socialisation' approach, or an approach that perceives using English as a second language as distinct from using English as a first language with emphasis on the four language skills separately: listening, speaking, reading and writing. However, it seems that the complex issues that have been revealed, particularly from an Academic Literacies perspective, need to be examined further through a student-centred approach where differences between language use and second language use are minimised and the development of control over learning is

encouraged. To this end, in considering the design of the programme, the dynamic nature of the context of learning in relation to the students' own historically driven contexts can be effectively informed by Vygotsky's theory of the Zone of Proximal Development. Also, studies investigating student approaches to learning, combined with studies of strategic behaviour will be important in informing further about the nature of student-centredness and the students' changing processes in writing their essays.

These three key aspects of the study are brought together in order to investigate the English use of students for whom English is a second language within an ESAP course based on language use in context, so as to explore the extent to which and how the students' use of language can help them achieve success in their academic studies. The focus of the next chapter will be the context of learning.

CHAPTER 3

A STUDENT-CENTRED CONTEXT OF LEARNING

3.1 Introduction

In the last chapter, the importance of context was discussed and it was established that the study should be guided by a student-centred approach. In this chapter I consider the contextual framework for the study. I shall draw on relevant fields of research that contribute to designing a student-centred course as the context of learning. This will provide the means for investigating the progress of international students preparing to enter an English-medium, Western system of higher education.

3.2 The Main Issues

Recent research has shown that the cultural differences between students and those of their university institution can be a problem for any student, regardless of educational background (Lea 1995, Ivanic 1997, Lillis 1999). These differences might be manifested through misunderstandings that might not come to light until a student has already failed a part of the course (English 1999). For example, Lea and Street (1998) and Lillis (1999) both report that some undergraduate students find assessment comments on their assignments unclear and unhelpful.

International students coming from other cultural and linguistic backgrounds to study in the UK are often unprepared for coping with British university academia (Low 1996). Therefore their problems are likely to be more acute than those of home students. Ryan and Zuber-Skerritt (1999), in their collection of post-graduate experiences in Australia, identify a wide range of problems encountered by Asian students due to the mismatching of their expectations with those of their institution. Their problems are identified on the surface as 'language problems' by both the institution and the students themselves when they are likely to be much more deeply embedded in cultural difference. International students are often perceived to be needing remedial language support that separates rather than integrates them into their academic discourse communities (Turner 1999a).

Turner (1999a) argues that 'the scope and potential of EAP in its institutional context remains under researched, under promoted, and under acknowledged' (p65) and that a more reflexive approach is needed, where students are encouraged to enhance their conceptual understanding while simultaneously developing their awareness and understanding of their own second language use. Therefore, EAP, in helping students to prepare for embarking on their main studies, needs to provide a context of study that enables them to become familiar with using English as a second language in situations that are fundamentally relevant and useful to

their future studies.

3.3 The EAP Context of Study

As Swales (1990) describes, the EAP context of study has its own discourse community, driven by the nature, needs, interests and goals of its members: the international students. Their interests go far beyond linguistic issues. For them, English as a second language is a necessary tool for furthering their long-term objectives in their mainstream studies. This community will inevitably draw on their histories as well as on their present and future needs. In other words, their prior knowledge and experience provide an important resource for developing their use of English. Points of familiarity and unfamiliarity can be discovered through new cognitive challenges that encourage their conceptual development (Widdowson, 1989) and their developing a critical awareness of the purposes of such challenges in relation to self-ability (Flavell 1979, Wenden 1998).

Students at university, above all, need to be able to write; but writing is an extremely complex process (see for example Bereiter & Scardamalia 1987, Bazerman 1988, Ivanic 1997) because it is integrated with all aspects of academic life: the intake, discussion, analysis and synthesis of knowledge and ideas. International students, in the process of becoming familiar with their mainstream academic environment, including how to use English as their second language, will need to reflect on how far their writing in English provides fair representation of their intended meaning. Therefore it seems that task-based learning has much potential in addressing their needs within the preparatory EAP context.

3.4 Task-based Learning

With the growing interest in student-centred pedagogy and CLT approaches, research into task-based language learning (TBL) has attracted wide interest and a great deal has been learnt about it in recent years, particularly in developing general English as a second language (GE).

It has addressed a key difficulty emerging within the CLT movement: the restricted context of the classroom, which has been found to prohibit extension of language practice into real-life situations because students' needs are not met. Brumfit (1984), Prahbu (1987), Widdowson (1989) and others suggest that students need to be provided with the means to attend to meaning rather than form by encouraging 'natural language acquisition processes to operate' (Brumfit 1984). However there remains the question of what the balance should be between form and meaning, thus giving rise to tensions between appropriacy and accuracy (Corder 1972); to the question of what counts as fluency (Brumfit 1984); and, more recently, to considering the balance among complexity, fluency and accuracy as a useful tool for analysing students' communicative competence (Foster & Skehan 1996, Skehan 1998, Bygate 1999).

Long and Crookes (1992) recommend 'immersion activities', where all communication takes place in

the target language only, has some sort of relationship with the real world and can be supplemented by instruction. This kind of TBL approach has been widely taken up and examined by key researchers including Gass and Crookes (1993), Wenden (1995), Foster and Skehan (1996), Willis (1996) and Bygate (1999).

However, much TBL research has concentrated on GE and on the development of spoken rather than written second language. In the EAP context, it has long been recognised that it is academic writing that needs most attention. In this regard, Lea and Street (1999), taking an academic literacies approach, and Swales (1990), taking a genre approach, have encouraged advancements in pedagogical theory and practice that signal the relevance and usefulness of TBL, particularly for developing students' academic writing.

The key advantage of TBL in EAP is, as Wenden (1995) points out, that TBL can be designed to encourage students to develop their own ways of working through relying solely on their efforts which should then equip them for managing their future studies. This leads us towards a detailed consideration of the context of learning in the form of a TBL course.

3.5 The Design of a Task-based Course as the Context of Learning

As Skehan (1996) points out, much depends on design and implementation in task-based learning. From an EAP perspective, most importantly, the course as a whole must aim to help students enhance their use of English in a way that is relevant to their academic interests and needs as outlined in Chapter 2 (Section 2.5.1). Therefore it needs to encourage students to make the best use of their knowledge and experience in such a way that they develop a critical awareness of their second language use.

Such a programme will have, at its core, a task-type, with the task itself commanding the focus of attention and, in the EAP context, it needs to present some conceptual challenge where cognitive demands are made of the students through the medium of the second language (Widdowson 1989). It also needs to have an outcome that can be assessed. I will discuss this task-type more fully in the next section.

Drawing on TBL research, studies have shown that TBL is of little value if a task is an isolated event. There needs to be a series of tasks that resemble one another in some important way, i.e. 'parallel' tasks, as Plough and Gass (1993) suggest: tasks which are designed to have the same format and a similar level of difficulty, so that the differences between each task are minimised as far as possible. This allows students to become familiar with the task-type thus reducing the difficulty of the demands of each separate task and encouraging the use of prior knowledge and experience to develop their second language use. It also facilitates measurability of the quality of performance in terms of progress and improvement.

Recent practitioner research (e.g. see Wenden 1995, Foster & Skehan 1996, Willis 1999) has shown that pre-task and post-task activities need to be considered in terms of how they can be implemented to enhance task performance. In the EAP context, they might take the form of prediction, recall and feedback activities, highly recommended by Wenden (1998) for encouraging students to reflect on their performance. Such activities also provide the opportunity to consider performance in terms of process as well as outcome, as Davies (1991) suggests: the process being interpreted as 'what the learner actually experiences' and the

outcome as 'that demanded of the learner' (pp141-2). In other words, pre-task and post-task sessions can have a valuable dual purpose: pedagogic and investigative.

We now need to examine more closely the tasks themselves and the task-related sessions in the course.

3.5.1 Tasks

It is impossible to fully cover the extensive literature on task-based learning. Therefore, in this section I will focus only on the key points that are relevant and important.

We begin with the contribution of activity theory, developed through the work of Leont'ev and having its foundations in Vygotskian socio-psychology. Drawing on this, Coughlan and Duff (1996) make a useful distinction between the terms 'task' and 'activity'. They describe the 'task' as a 'behavioural blueprint', which is given to the students to do, whereas the 'activity'

comprises the student's behaviour that is actually produced when an individual (or group) performs the task. It is the process, as well as the outcome of the task, examined in its sociocultural context (p175).

This not only places some emphasis on the process of doing the task but also suggests that the outcome cannot be separated from the process and that, in fact, the outcome can somehow inform about the process. Similarly, Prahu (1987) and Swales (1990) too, in the field of EAP, take account of the process as well as the outcome, describing a task as a cognitive, goal-directed activity. Willis (1990), in the field of GE, is more concerned with outcome, describing a task for developing general second language use as one in which

the focus is on the outcome of the activity rather than on the language used to achieve that outcome (p127).

She is therefore suggesting that language is a tool used to achieve a goal set by the task and that how the language is used is revealed by what is achieved.

Both these perspectives, from within EAP and GE, support the arguments that the nature of second language use has important similarities with language use per se, as discussed in Chapter 2, and that tasks should take account of this.

So far, the discussion suggests that two features are important in the task design. Firstly the task needs to have a clear and specific focus so that the task goals can be understood by the students. Secondly, in the EAP context, the cognitive activity that is encouraged by the task needs to relate to the students' interests so that the students are guided towards producing outcomes that are relevant to their academic foci. Also, the demands made need to be at an appropriate level of challenge: challenging enough to stimulate interest and but not too challenging to hinder the expression of ideas. This point is emphasised by Skehan (1996), who warns that concentration on meaning can consume 'attentional resources' to the extent that there is too little opportunity to attend to the expression of meaning thus possibly creating 'a stumbling block' to progress (p41). He also suggests that there is a danger that TBL may simply teach students how to do tasks

better rather than drive their interlanguage forward: a point worth bearing in mind.

To avoid this, Skehan (1994) suggests a clear framework comprising three main components in task design: code complexity, communicative stress and cognitive complexity, to cover code-related, performance-related and cognitive-related factors. For the present EAP purposes, these need to be considered within the context of three other inter-related factors concerning task design: the students' long-term goals; their development of second language use, and tasks as situated within a task-based course.

The students' long-term goals impact on task design in two ways: their academic interests, and the skills that are useful to them in their development. Their development of second language use is clearly related to their long-term goals in the same two ways and, as already discussed, in terms of the cognitive demands of the tasks. The tasks situated within the framework of a course have also been discussed (see Section 3.5).

We turn now to consider the employment of skills in task performance in terms of task complexity and task purpose.

Simple tasks, where the four language skills (listening, speaking, reading, writing) are treated separately, are more divorced from reality than complex tasks, which encourage an integration of skills, because, clearly, skills are not separated in natural communication. In natural communication, users select the skills they are good at to achieve their goals and frequently take risks when necessary. Risk-taking is an essential feature of language development (Krashen 1985) and needs to be taken into account in considering complex, integrated skills task design for EAP. Therefore we are left with the question of how integrated-skills tasks can be designed to emulate realistic communicative situations as far as possible and enhance second language use in academic writing.

Moving on to task purpose, Oxford, Lee, Snow and Scarcella (1994), survey a general Western tendency towards an integration of language skills as opposed to separate skills in the classroom, as advocated by Savignon (1983, see Section 2.5.3). They emphasise the difference between language used for 'basic social exchanges' and language used for academic purposes as follows:

Cognitive academic tasks are often more intellectually demanding and more context-reduced, with meaning typically inferred from linguistic or literacy-related features of a relatively formal written or oral text (p258).

This broad distinction was first highlighted by Cummins (1981, 1984), who carried out research into the needs of bilingual school children in the US. Cummins concluded that in basic social exchanges rich situational clues about the meaning are provided whereas in academic tasks this is not the case because the cognitive demands are greater. He describes the distinction in terms of two different foci of integrated-skills tasks: basic interpersonal communicative skills (BICS) and cognitive academic language proficiency (CALP), seen as the opposite ends of a continuum rather than as completely separate from one another.

Concerning the nature of the cognitive demands in academic tasks, similar extensive work has been pursued by O'Malley and Chamot (1990), who developed CALLA (the Cognitive Academic Language Learning Approach), an instruction model, widely used at secondary school level in the US. It is based on

Bloom's taxonomy of cognitive processes, describing academic proficiency in terms of four higher-level thinking abilities: application, analysis, synthesis and evaluation, and social proficiency, in terms of recall/recognition and comprehension (Chamot 1983 in Oxford et al. 1994). From this, O'Malley and Chamot (1990) have confirmed that second language ability can be developed through integrated-skills, problem-solving tasks.

Participants in real-life situations, as opposed to language-learning situations, behave strategically, drawing on linguistic and non-linguistic skills that they believe they can use effectively in specific situations. In TBL, tasks can be designed to provide students with choices of skills so that they can strategically select their preferred ways of working in order to pursue both their own goals and the set goals. We can refer to these as Integrated Skills Tasks (ISTs). The skills, through using a variety of verbal and non-verbal semiotic modes, may involve comprehension and production, note-taking, skim reading, essay writing, etc. I suggest that it is this aspect of TBL that could be most interesting to the aims of EAP, particularly in academic writing.

In exploring the potentials of ISTs where writing is the outcome, it is important at this point to clarify the scope of our interests in this study. Swales (1990), in his definition of a task, takes a genre perspective on EAP. He argues that students should be able to acquire pre-genre skills such as describing and discussing subject-related facts, concepts, issues and hypotheses etc. and genre skills for addressing specialised tasks such as writing a report of an experiment in science. Such genre-related skills are both linguistic and non-linguistic: linguistic in making appropriate choices of vocabulary, grammar and discourse features; non-linguistic in making appropriate choices of discourse organisation and content. Our concern is with the use of genre that is appropriate to the task set. This point will be discussed in more detail in Chapter 5.

Concerning the principles of IST design, Paltridge's work (1992) on using ISTs as diagnostic tests has provided some helpful guidelines. In his study, the test takers were required to demonstrate their ability to transfer one mode of language use to another in a way that reflected 'the language behaviour and expectations of an English language academic learning environment' (Brookes & Grundy 1990). The students were required to produce an essay within a given time limit. The task instruction was to write an essay about their own experiences of language development. Information through spoken and written modes was provided as input. In this way, the task provided some approximation of using English in a natural context. The instruction provided a clear focus and the process of writing the essay required the students to behave in four important ways: to plan ahead; to interpret and selectively use the information that was presented to them through spoken and written modes; to draw on their own knowledge and experiences; and finally to present their ideas in an intelligible written form (Paltridge 1992).

This model seems highly appropriate for designing ISTs for this study. Such tasks could mediate students' learning by encouraging them to develop their use of a range of skills that would be useful for making progress in using their second language. Also, if the tasks are about the students' academic subjects, they could encourage the expression of concepts that are both familiar and interesting to the students. Clearly, writing needs to play a key role and the outcome of each IST, as in the Paltridge model, could be a

written essay and the task could present multimodal input that is comprehensible (Krashen 1985).

The possibility of transferring task-based work to the target context has received a great deal of attention in the EAP context and remains an unanswered question. One of the difficulties highlighted by the academic literacies approach advocated by Lea and Street is that learning contexts in different fields vary as well as change. But added to this is the point highlighted through Vygotskian and Hallidayan views of language use as a dynamic, not a static, construct; each learning context comprises its own discourse community, which is itself dynamic, with the participants themselves being a part of and contributing to its constantly changing nature: their own use of language changing in the process. This means that ISTs need to encourage students to improve their activity through enhanced language use in a way that equips them to adapt to changing contexts of learning and empowers them to contribute to those changes.

3.5.2 Pre-task and post-task sessions

Sessions before and after task performance, as employed by Prahbu (1987) in the CTP (see Section 2.5.3), are now regarded as extremely important in task-based learning (Foster & Skehan 1996, Skehan 1996, Wenden 1995, Willis 1996) because they can provide a range of opportunities for understanding task performance, to the advantage of the tutor and task designer as well as the students. Tutors can mediate students' learning by, for example, making explicit features about the task and features about doing the task which may not necessarily have been previously grasped (Schmidt 1994) and the task designer can gain further insights into the task demands so as to evaluate the task as an effective instrument.

Students 'must somehow step outside of themselves to attain a perspective on their own language performance' (Schmidt 1994:19). Pre-post-task sessions can serve this purpose by encouraging students to: adopt a reflexive, more critical approach to their performance; develop 'an empirical and introspective understanding' (Faerch & Kasper 1987) of the task demands; and develop their language awareness in relation to those demands. Then they are better able to improve in the next task performance, perhaps through selecting appropriate strategies that will help them enhance their language use (Flavell 1979). They gain more control over their own learning which, in turn, leads to greater conceptual understanding (Baird 1986).

Pre-task sessions

Rather than enter a situation blindly, students naturally like to know what to expect. Preparation for a task, such as raising students' awareness of the task demands, format and goals, can 'ease the processing load' (VanPatten 1994) of the task performance, a point which is strongly supported by Wenden (1995) and Skehan (1996).

Foster and Skehan (1996) discuss the importance of planning as pre-task activity and Wenden suggests that knowledge about the task can provide a basis for developing strategic competence thus improving performance. Furthermore students are likely to 'seek connections between prior learning tasks and the current one' (Wenden 1995:186). They need to understand about the 'knowledge outcome' in terms of what they will gain from doing the task. They also need to gain an understanding of how the task is

broken down into sub-tasks and of how these are ordered to make up the complete whole: having time, for example, to first think analytically about the task instruction; then to plan an answer by using their knowledge and experience; then to select the relevant information from comprehensible given information input; then to add it to their original plan; then to write a draft answer and then to write a final answer.

Post-task sessions

As already emphasised, post-task sessions can be a valuable learning tool and have a variety of functions. Firstly, they can provide feedback to both students and tutor about the task, the students' performance, the task design, the task as a learning tool and about assessment. They provide opportunities to focus explicitly on language, as Kasper (1996) suggests (see Section 2.5.6), as well as other aspects. They permit students to gain further insights into the task demands in relation to their own abilities. Most importantly, feedback can encourage students to adopt a critical approach to their performance, to reflect on their strengths and weaknesses and to increase their control over their own development, in the sense suggested by Bialystok (1994a).

Bygate (1999) advises that task repetition has advantages and disadvantages. If the task is repeated and discussed at the same time, students are given an opportunity to consolidate the conceptual and linguistic challenges from their own experiences and perspectives. The disadvantage he found in his investigations was that task repetition did not reveal any benefits for addressing new tasks. Nevertheless, he concludes that 'a range of ways of repeating tasks in class could be a valuable pedagogic resource' (p43). Task repetition in post-task sessions could be helpful in encouraging students to critique the task itself, by appraising it in terms of its merits, its difficulties and other short-comings, and, most importantly for its value for their learning, which could also be helpful for the task designer.

Thus a variety of opportunities for 'analysis and synthesis' (Skehan 1996) can be incorporated that might encourage the students to become reflective thinkers and to negotiate their learning. An added advantage could be that, in the process, unconscious language development might take place.

3.5.3 The course as a whole

The main advantage of an IST-based course over one single IST is that it allows language use to develop over time thus making it possible to investigate the students' progress in their use of English within that framework (Skehan 1996). From this perspective, if the focus of the course is a series of parallel tasks, where only essential features of content knowledge are different and each task is accompanied by a set of pre-post-task activities, similar challenges are reiterated, which has several advantages. It:

- eases the pressure on students by allowing them to develop some familiarity with the process of doing the tasks thus lowering their affective filter (Krashen & Terrell 1983),
- encourages students to become familiar with the pre-post-task sessions so that they can take full advantage of the opportunities provided by them, thus also lowering their affective filter,
- allows students to compare their own performances across the tasks, thus encouraging them to develop a critical approach to their working,

- can inform about task design by comparing students' performances across the tasks and from student feedback,
- facilitates analysis of the students' progress over the whole programme since it provides opportunities for investigating students' approaches to each IST (Entwistle 1997) as well as their essays as outcome.

In addition, because there is an outcome, an assessment procedure can be implemented to examine progress and individual student differences. This is the next point to discuss.

3.6 Assessment in Task-based Learning

The issue of assessment in the learning process is fundamentally important, as is being increasingly realised across the curriculum (Black 1998, Black & Wiliam 1998). Assessment can offer a valuable contribution to the development of second language use, and ISTs similar to those used by Paltridge (1992) can be conducted under test conditions. Research in EAP, communicative language testing and general pedagogy has led to a much deeper understanding of the issues involved than hitherto, particularly concerning test purpose in relation to teaching and learning.

Communicative language testing has received a great deal of attention in recent years (Weir 1983, 1988, Bachman 1990, Bachman & Palmer 1995, McNamara 1996). But progress in this area is only now catching up with developments in communicative language teaching because there is still a major concern that what is taught and learned cannot be adequately tested. Another main concern is the negative impact that testing can have on teaching (Robinson 1991:73) and therefore on learning. Indeed this is a general pedagogic concern, and our understanding of the nature and potentials of assessment has benefited greatly from recent discussions in pedagogy generally (Black & Wiliam 1998).

The purposes of tests in CLT have also been closely scrutinised and widely researched. Key discussions about the issues of validity and reliability among leading researchers in the field (e.g. Alderson, Davies, Brindley, North, Pollitt and Porter) were held at the Language Testing Symposium organised by the International Association for Teaching English as a Foreign Language (IATEFL) in 1989 and published by Alderson and North (1991). This has led to a much more informed understanding of the problems of communicative language testing. Further contributions to our understanding have emerged through the development and use of performance-based tests such as the ILELIC (Institute of Linguists Examinations in Languages for International Communication), IELTS (International English Language Testing System - University of Cambridge Local Examinations Syndicate), TEEP (Test of English for Educational Purposes - Associated Examining Board) and UETESOL University Entrance Test in English for Speakers of Other Languages (JMB - Joint Matriculation Board) and will be discuss further in Section 3.6.4.

Robinson and Ross (1996) discuss the advantages of task-based testing in encouraging students to gain knowledge about their learning. In the following three sections, I discuss ways how this might be stimulated. Three main aspects of assessment need to be considered in turn: firstly, the ISTs as tests of

language use, as distinct from the ISTs as instruments for developing language use; secondly, the formative and summative functions of assessment in relation to a series of ISTs in the programme; and thirdly, how the task demands and the outcome of the task performance are linked through the nature of the assessment. Then the criteria themselves can be considered.

3.6.1 Integrated-skills tasks as tests

In this section, the ISTs used in this study are considered according to their function as performance tests. Despite the problems of validity and reliability, Low (1982), Emmings (1986), Weir (1988) and others find that performance tasks, which test integrated linguistic and non-linguistic skills, are useful instruments in developing language use. However, as Weir points out, little is known about such tests. What we have already established is that the tasks used in this study are complex and as tests they must also take into account the complexity of the profile information of individual performance.

Paltridge (1992) has provided some helpful guidelines. In designing his integrated-skills, placement test he drew on the CLT principles for language use first introduced by Morrow (1979), which he quotes: 'language is used in interaction'; 'language interactions are usually unpredictable'; 'language always occurs in a context'; 'language is used for a purpose'; 'language is authentic not simplified'; 'language is behaviour based' (Paltridge 1992:245). These important principles resonate strongly with the theoretical approach to understanding language use discussed in Chapter 2, thus providing the basis for developing assessment criteria to be discussed later in Chapter 5.

It is generally accepted that the most important considerations in test design are validity and reliability. But these have bedeviled the concerns of communicative language testing. Too frequently, as Porter neatly summarises the problems, 'Language tests simplify what they assess: the complexities of life.' (Porter in Alderson & North 1991) and the simpler the test, the easier it is to achieve reliability but the more difficult it is to achieve validity (Alderson et al. 1995:187). In other words, the concerns about task complexity and test complexity are closely aligned.

3.6.2 Formative and summative assessment

Assessment can have formative and summative purposes and the pedagogical value of both functions are of considerable interest (Black 1993, Wiliam & Black 1996).

Formative assessment is useful for 'scaffolding' students' learning (Bruner 1985). Each time students receive feedback on their efforts, which are the task outcomes, they have the opportunity to become more focused about the task goals in relation to their own abilities so that, as Wiliam and Black (1996) explain, they themselves develop the ability to 'guide their own subsequent learning' (p98) thus channeling their own progress. Another advantage of formative assessment, as Wiliam and Black (1996) point out, is that it helps teachers to 'modify their teaching methods and materials so as to make them more appropriate to their students' needs, interests and capabilities'. Summative assessment can also have a formative value if it provides information about students' achievements and progress because it helps students to determine their next course of action.

Hence, an important point in understanding the educational potentials of assessment is that both forms of assessment can apply to the same test even though their functions are different (Black 1993). Black claims that the main purpose of formative assessment is to provide 'feedback into the learning process' and the opportunity to improve performance (p61). Formative assessment allows time for cognitive processing and for self-assessment to develop; it encourages the development of 'complex understandings through reflective habits of mind', which helps 'mastery learning' (p74) and the development of autonomy. This means that students can gradually become empowered to evaluate their own performance more critically which greatly helps to enhance their second language development (Pollitt 1991).

The potentially multi-faceted nature of formative assessment has deep implications for the processes of instruction and learning because it addresses the traditional problem of mismatch between learning and testing. For example, assessment criteria can describe the nature of the context and of the task demands to the student (Brindley 1989), assess the student's performance and provide an overall focus for the task demands, thus helping students to scaffold their learning. This study, given the complexity of the tasks and their mode of implementation, intends to capitalise on the formative value of assessment through seeking close links with learning and with realistic goals. This would be the rationale for establishing the assessment criteria.

3.6.3 Assessment of performance

To account for the complexity of individual differences, 'variability in language performance needs to be addressed' (Skehan 1991). Therefore assessment is mainly about investigating students' progress in using English as a second language which includes their ability to handle linguistic features that are a part of both their prior and their newly acquired knowledge. However, it is also about individual differences in using English.

As discussed in the previous section, the potentials of the formative value of assessment open up the possibility of a much closer approximation between learning and testing since it is theoretically possible to select criteria that highlight those aspects of language use which are intended to be the focus of the task performance (Black 1993). Nevertheless, this is not a simple remit if the selection of the criteria is to effectively address individual differences in language use and match them with the task demands.

Alderson, Clapham and Wall (1995) suggest that a rating scale - partly holistic and partly analytic - needs to be used (pp107-8). At the most general level, the criteria should be entirely holistic whereas, at the most specific level, they should be analytic. Black (1993) warns of the dangers of, on the one hand, using broad and vague criteria, whose 'formative value can be lost' because they may provide too little information about the nature of the assessment to be useful, and, on the other hand, of using too detailed criteria which may focus too narrowly on select micro-features that cannot combine to provide the whole picture.

Three main, interconnecting considerations in testing need to be considered at this point: practicality, reliability and validity.

Test designers must balance the usefulness of the profile information against the demands of reliability and validity in the testing context (Alderson & North 1991).

Thus, practicality is to do with the feasibility of conducting the test and assessing students' work so that the results provide useful information. This means that some degree of measurability needs to be incorporated.

Reliability is problematic in subjective forms of testing, such as in the case of assessing students' second language use, where students construct their meaning in individual ways. It can be addressed in two ways: by multiple marking of the same tests, where the assessors are trained in advance, and by comparing standards through sampling (Alderson et al. 1995). Nevertheless, achieving a high form of reliability among examiners is not easy and even one assessor can mark a piece of work differently at different times. Despite a high level of familiarity with the criteria, subjectivity is never completely absent (1995).

Validity is particularly important here because of the need for close coherence between the theoretical discussion about second language use, set out in Chapter 2, and the assessment criteria as descriptors of language use. As Bachman (1990) claims, validity is to do with 'the way we interpret or use the information gathered through the testing procedure' (p239). Therefore, the descriptors do need to reflect the purpose behind the test. However, validity cannot be separated from reliability in that to be valid the test results must be reliable (Alderson et al. 1995) whereas the opposite is not the case: reliability does not depend on validity. Furthermore, as Alderson et al. (1995) explain:

In practice, neither reliability or validity are absolutes: there are degrees of both ... you maximise one at the expense of the other (p187)

Achieving complete validity, particularly about writing in a second language, is a very difficult task.

The formative value of tests is considerably enhanced if the students themselves feel that the tasks they are asked to do are helping them to perform in a way that is relevant to their needs. Therefore, carefully selected criteria which are made known to the students can play a significant formative role (Black 1998).

As Alderson et al. (1995) argue, the set of criteria must be agreed and fully understood by the assessors as being fairly and clearly representative of what is being tested as well as being usable. They emphasise the importance of training assessors in advance, as discussed above, but also caution about the complicated issue of the nature of expertise in language testing.

Predictive validity, which considers the test as an indicator of future success, or of a student's potential, in relation to the mainstream academic context (Alderson et al. 1995), is also important because the assessment criteria need to be able to inform, as far as is possible, about test-takers' abilities to succeed: in this study, in using English as their second language for their future academic studies, both in terms of performance in individual tests and progress across the series of tests.

The next step is to consider the design of a set of assessment criteria that is appropriate to the purposes of this study.

3.6.4 Selecting assessment criteria for the integrated-skills tasks

The IST design attempts to reflect the complex, integrative nature of language use and its dependence on the context. If the assessment criteria are to be an effective pedagogic tool, i.e. used formatively as well as

summatively, they need to reflect the same objectives which form the basis of the task design. They need to describe the complexity of the task and its relevance to the students' needs. This point is signaled in Bachman's model of communicative language ability (1990:85), which is a far-reaching attempt to address the difficulties of selecting and using criteria for assessment purposes.

The criteria need to assess performance in writing, taking as their focus the task instruction. They also need to assess the essay as the outcome of a process. Thus they need to describe language use in relation to the task demands. However, as Paltridge (1992) advises, the criteria need to contain features that combine to provide a composite whole and that will inevitably overlap because of the complex, individual nature of second language use. This means that the extent to which the criteria can provide an analytical description is limited. They are intrinsically characterised by their interrelated and holistic nature. They need to describe, first and foremost, language use as the communication of relevant meaning; in second place, the coherence and cohesion of features that realise the communication of the meaning; and, lastly, structural features that realise the communication of the meaning.

Having considered the overall considerations, we turn now to a brief overview of the assessment criteria used in comparable tests.

There is now a wide range of tests that foreground language use i.e. the communicative function of language. They draw on developments stemming from the pedagogical approaches to communicative competence theory first proposed by Canale and Swain (1980), particularly through the work of Bachman (1990), Weir (1990), Alderson and North (1991), Alderson, Clapham and Wall (1995), Bachman and Palmer (1995), and McNamara (1996). Many of them are designed for specific purposes e.g. occupational purposes or, as these ISTs are, for specific academic purposes. Such tests focus on a range of functions and skills relevant to those purposes and are assessed in different ways using criterion, norm and content referencing techniques. Those that have most usefully informed the interests of this study focus on predicting the degree of success that students will have in using English as a second language in their tertiary-level studies. Consideration of three well-known proficiency tests - Testing English for Educational Purposes (TEEP), International English Language Testing System (IELTS) and University Entrance Test in English to Speakers of Other Languages (UETESOL) - suffice to cover the relevant issues. However, one other test, designed by Paltridge (1992), used as a diagnostic test at the start of an EAP course, is also important since one of its two components closely resembles the format of the ISTs used in this study.

All four tests have more than one component and each component tests performance with an emphasis on combining one or more of the macro-skills (listening, speaking, reading, writing) with other, non-linguistic, skills. The assessment criteria used in the components most relevant to this study are considered below.

The TEEP

The key criteria for three of the four components are worthy of consideration here - Written English, Listening Comprehension and Reading Comprehension. For Written English they include:

relevance and adequacy of content,

compositional organisation,
cohesion,
adequacy of vocabulary for the purpose,
grammar,
punctuation and spelling.

The criteria for Listening Comprehension include:

distinguishing the main idea from the supporting detail,
understanding ideas and information in the text,
extracting salient points to summarise a specific idea or topic or the underlying idea or point,
selectively extracting relevant key points from a text especially involving the co-ordination of related information,
rejecting redundant or irrelevant information.

The criteria for Reading Comprehension include:

understanding the conceptual meaning,
separating the essential from the non-essential in the text,
distinguishing the main idea from supporting detail,
skimming to obtain the gist and for specifics.

IELTS (UCLES, British Council and IDP Education Australia 1999)

The following profile of 'the expert user', i.e. the highest band descriptor summarises the use of four skills (listening, speaking, academic reading, academic writing). These are tested separately and brought together in the band descriptors to provide a holistic assessment:

Has fully operational command of the language: appropriate, accurate and fluent with complete understanding (p16).

Implicit in this is the following extract from the profile of 'the very good user' i.e. the second highest band descriptor: 'Handles complex, detailed argumentation well' (p16).

UETESOL (NEAB 1999-2000)

The criteria for three components are worthy of consideration - Writing Skills, Reading Skills, Listening Skills.

The Writing Skills component has two parts, each with its own set of criteria. Briefly summarised, for maximum marks the following are required:

- Part A efficient, accurate communication.
- Part B a developed logical piece of writing interpreting the information provided;
the use of appropriate discourse patterns for comparing and contrasting, cause and effect relationships, drawing conclusions, making hypotheses;
clear paragraphing;
coherence at inter-sentential and inter-paragraph level;
sentences of a complexity consistent with a formal register;
grammatical prose (pp3-4).

The criteria for the Reading Skills component are described as the ability to:

scan for particular information, extract, summarise and manipulate information, make inferences and apply the information to the solution of a related problem (p5).

The Listening Skills component tests certain comprehension skills such as classification, ordering, comparing and contrasting, collating and interpreting attitudes or views (p6).

Paltridge's Placement Test (Paltridge 1992)

The criteria for the Writing component are:

Overall impression;
Ideas and argument;
Accuracy;
Fluency;
Appropriacy;
Intelligibility (pp249-249).

Six important observations about these sets of criteria are:

- They assess holistic and analytic aspects of language use. For example, holistically they assess the understanding of the content, and the selection and ordering of appropriate information. Analytically, they assess appropriateness in the use of discourse features such as register and genre as well as accuracy in syntax.
- The amount of emphasis given to detailed features of language use and the extent to which they are atomistically assessed varies. Therefore, acceptable responses at the linguistic level will vary greatly in their degree of predictability. Some are likely to be highly predictable whereas others are not at all.
- The writing components focus on the interpretability of information by the reader: e.g. intelligibility, coherence and register.
- Quality of content and complexity of language use are considered.
- Some cognitive challenge is recognised both in linguistic complexity and in communicating meaning.
- Relevance to the task instruction seems to be important.

The different sets of criteria indicate certain differences in what the four tests emphasise in describing language use. The criteria used in the TEEP are quite detailed, reflecting that the test is designed to assess the abilities of students wishing to enter courses in the social sciences, where language use may need to be quite complex. It is also worth noting that the criteria for the Written English component include content features, such as relevance and adequacy, organisation of the content, and linguistic features such as grammar, vocabulary, punctuation and spelling. The criteria for Comprehension include relevance, recognising main points and details. The criteria for IELTS are particularly concise, reflecting the main thrust of the communicative approach (Brumfit 1984, Weir 1990). In UETESOL, which is designed for science oriented students, the Writing criteria emphasise organisation and include coherence and communication, mention of specific functions, register and grammatical complexity. The Comprehension criteria highlight cognitive aspects which entail critical evaluation, interpretation and use of information. Specific functional skills are mentioned in the Listening Comprehension component.

Of the four tests, the criteria for the written placement test used by Paltridge were found the most informative in this study because of its similarities with the IST design. The criteria Paltridge used in the Writing component are well-grounded in theoretical principles that are supported here. Firstly there are Morrow's principles of language use (Morrow 1979) quoted earlier in Section 3.6.1. Compatible with these is the genre-based approach of systemic functional linguists, who position the text within its contextual framework (e.g. Halliday & Hasan, 1985).

However, two significant differences between Paltridge's writing test and these ISTs must be noted. One concerns design: the other implementation. The topic of Paltridge's test was to do with learning a second language, which reflected those students' interests at that pre-programme stage but would not be relevant to the needs of students following an EAP-type programme as in this study. In keeping with Morrow's principles, the topics of ISTs need to be relevant to the students' academic interests at an appropriately 'general specific' level to have a positive influence on the students' second language use (Paltridge 1992). By a 'general specific' level is meant a level where the content is about a 'specific' academic topic but not one that is so technical as to be too cognitively demanding. Secondly, Paltridge's test was implemented for summative purposes only, which were to place students according to their level of language use on a preparatory EAP course, whereas each IST is implemented as one of a series. Each has a formative purpose in that it is intended to guide the students' learning.

3.7 An Overview of the Theoretical and Pedagogical Underpinning of the Study

As indicated in these first three chapters, my thesis is situated within a broad theoretical base and draws on several research fields. Underpinning them are two approaches to the development of language use that I suggest deepen our understanding of its contextual nature as described by Hymes. One is the intraorganismic orientation based on Vygotsky's approach to language as the most important semiotic tool for mediating meaning. The other is the interorganismic orientation taken by Halliday that examines how language is used to make meaning.

As far as communicative competence approaches to second language acquisition are concerned, there is a great deal to draw on that would lend itself to detailed examination. However, it is impossible in this study to do justice to the extensive research that has informed second language development. I am limiting my study to what I perceive to be most important in these approaches. One is discourse competence with an emphasis on how language use connects up with the wider and deeper concept of 'Discourse' (Gee 1996). The other is strategic competence, which is helpful for examining the process of addressing the task and for understanding the interlanguage used to convey meaning in terms of appropriacy and acceptability.

The experiences of EAP and research into the experiences of some students at university outlined in Chapter 2 suggest that there is a great deal more to be discovered to fully understand student-centred learning. A significant breakthrough that has addressed the limitations revealed in CLT has been the problem-solving approaches inspired by researchers including Widdowson (1983), Cummins (1984), who

developed BICS and CALP, mentioned earlier, and Chamot and O'Malley (1994), who developed CALLA, also mentioned earlier. Another area is the experience of learning, extensively researched by Marton et al. (1997) where investigating approaches adopted by students to their learning may illuminate the nature of strategic behaviour; another is the role of reflection on both activity and learning thus encouraging the development and use of metacognition (Flavell 1979, Wenden 1998); a third is activity theory as a means of understanding how second language develops through mediation brought about by the externally designed contextual framework.

In this chapter, I have considered key aspects of design in an integrated-skills, task-based programme as an instrument for examining students' progress in using English as a second language for academic purposes. To this end, I have unpacked different notions of 'task' and drawn on studies of TBL to explore the pedagogic and research potentials of pre-post-task sessions. I have argued for implementing tasks where skills are integrated to reflect the aims of EAP, these being to help students to manage their learning in the mainstream academic context through using English as their second language. Finally, I have discussed the issues of assessment through highlighting the prominence of its formative value in the design of the study because of its multi-functional potential.

3.8 The Next Step

Having examined the main issues concerning task-based learning in this chapter it now becomes possible to consider the research questions and the design of the study. These will be discussed in the next three chapters.

CHAPTER 4

THE RATIONALES FOR THE RESEARCH QUESTIONS AND THE METHODOLOGY

The Focus of the Research

This chapter has a very specific function, which is to draw together considerations set out in Chapter 2 and in Chapter 3 in order to formulate the rationale for and to set out the research questions, and to formulate a rationale for the methodology.

The discussions in Chapter 2 have led to the conclusion that more understanding of how students enhance their second language use in an EAP context is needed. The purpose of EAP is to help students' progress in using English as a second language so that it will facilitate their academic success. The key points that have emerged are summarised under the following three headings, providing a rationale for the research questions:

The nature of language use.

The nature of second language learning.

The context of learning.

In the next section the research questions are set out and in the final section the rationale for the methodology is discussed.

4.1 The Rationale for the Research Questions

4.1.1 The nature of language use

Drawing on the complementarity of Vygotsky and Halliday (Wells 1999), language is primarily a semiotic tool.

However, language is 'perturbed by being performed under attention' (Halliday 1993:94) and when attentional focus shifts away from meaning to grammatical structure, communication of meaning is hindered. It is proposed that this can happen with first language users but much more so with second language users, who are simultaneously developing their ability to use the second language while trying to make meaning. For them, it is suggested, tensions can occur between language form and language use because of a shift between attending to how meaning can be expressed and attending to the meaning itself that is to be expressed. Clearly some grammatical competence is necessary to convey meaning and for meaning to be

understood but, as discussed in Chapter 2, it is generally accepted that this is only one part of communicative competence: the other three parts being sociolinguistic, discourse and strategic competence.

Here, the focus will be on language as a tool for making meaning by investigating students' progress in academic writing in English as a second language.

4.1.2 The nature of second language learning

We now focus more specifically on the findings about the nature of second language learning that are relevant to this study.

Developing second language use is frequently considered to be a complex cognitive skill because it involves the input and output processing of meaning-making, including a knowledge of how the language is used. It is suggested that input processing involves understanding the meaning that is conveyed, while the linguistic forms used may to some degree, or not at all, be processed; and that output processing involves communicating the intended meaning through selecting appropriate, though not necessarily accurate, linguistic forms. It is also suggested that, when the content of the communication is itself complex, the skill of communicating becomes more difficult which is why interlanguage would need to be regarded as an important, if not essential, tool for making progress in second language use.

As discussed in Chapter 2, part of the complexity, it is suggested, is due to progress in second language use being both a conscious and a subconscious process. It is thought that it involves three types of metacognitive awareness that would help communicative competence. One proposed type is an awareness of how to express meaning in written or spoken text, which would help progress in grammatical and discourse competence. Consequently, this process would also involve the development of control so that, through experiences of usage in similar task situations, automaticity could develop. When automaticity has developed to a certain level of competence, attentional resources could then be deployed to a higher, more complex, level of competence.

A second proposed type is an awareness of self-ability in relation to two types of goals: the goals of the specific task and long-term academic goals, which are perceived as encouraging progress in sociolinguistic and strategic competence. Related to this is a third type of awareness: that of how the task goals relate to the long-term goals, which, it is suggested, could also help progress in sociolinguistic and strategic competence.

Students learning to use their second language are confronted by choices about how to manage their learning. It is thought that they attempt to gain control through self-regulation, such as manipulating their attentional focus to deal with meaning or form where the one may be excluded at the expense of the other. Furthermore, it is suggested that they respond in ways that are uniquely individual, that are only partly observable and that depend on a combination of cognitive and affective factors. Their progress would appear to be helped by self-efficacy combined with high motivation and a positive perception of the task demands as being interesting, comprehensible and relevant to their needs and goals. Hence, these factors could determine the skills and strategies students select to develop competence in using their second language.

4.1.3 The context of learning

The focus of the study is a context of learning within an EAP setting, preparatory to the target context of academic study. It is based on a dynamic, historical perspective of language used where, fundamentally, language is perceived as always used in context and never in isolation, in line with the positions of Halliday and Hymes as discussed in Chapter 2. From that discussion, two key elements underpinning the context of learning are foregrounded.

One is the perceived need to understand better the academic-related performances of international students using English as their second language so that predictions can be made about how much their use of English will facilitate their academic success. The other is the student-centred nature of the context of learning, where each student's background, knowledge and experiences are recognised as instrumental to their progress.

The contextual framework itself is derived from our discussions in Chapter 3 which presents the case for developing an integrated-skills, task-based programme for students learning to use English as their second language in their academic studies. It would aim to provide them with learning experiences that are helpful as preparation for their future studies. The students' responses to the programme would be investigated in terms of difference and progress. In these discussions the nature of the programme as a whole with the task as the central focus is considered.

The context of learning is further specified by the level of study. Here the students are preparing for undergraduate study. Therefore, drawing on the classification of the different branches of ESL described in Chapter 2 (see Figure 2.5.1), this context of learning is best described as ESAP: English for Specific Academic Purposes. By this level of specificity I mean a level where English as a second language is used within an academic field of study, in this case: science at pre-undergraduate level, but not at as specifically technical a level as EST (English for Science and Technology) would imply.

4.2 The Research Questions

This study is investigating students' progress in using English as their second language through their responses to an Integrated Skills Task-based course which requires them to produce a written academic essay at the end of each task session over a series of parallel tasks. Therefore the main question will be the following.

The main question:

To what extent and in which ways do students' responses provide evidence of progress in relation to the goals of the IST-based course?

The previous discussion has shown that the IST-based course can be designed to permit students' responses to be investigated in three different ways. The first two are about the product and the third is about the

process. The first is through using the assessment criteria to provide a global indication of the level of each essay. The second is through using a textual analytical framework based on systemic functional grammar to examine key linguistic features in each essay in order to expand on the information provided by using the assessment criteria. The third is through drawing on the indirect student data provided by the post-task activities and the notes made while working on each essay to examine the approaches adopted by the students to address each task. These three ways provide three subsidiary questions as follows.

The subsidiary questions:

Question 1A

To what extent and in which ways does the students' use of English as their second language in their essays show progress in relation to assessment criteria that are based on the goals of the course?

Question 1B

What does a text analysis, inspired by Halliday's ideas, reveal about students' progress in using English as their second language in their essay writing?

Question 1C

To what extent and in which ways do the students' responses show progress in relation to their approach to the tasks set?

4.3 The Rationale for the Methodological Basis for the Study

There are two aspects related to the methodological basis for the study. Firstly there is the pedagogical aspect, which underpins the design of the programme, and secondly the investigative aspect, which underpins the research study itself.

4.3.1 The pedagogical rationale

The design of the ESAP programme is student-centred and task-based. It provides opportunities for using English as a second language to address cognitively demanding tasks, where the four language skills – listening, speaking, reading and writing – and other skills relevant to academic study are integrated in some way to encourage individual progress in the negotiation of meaning that could benefit future academic study in the target context. It comprises a series of parallel, integrated-skills tasks, each task accompanied by pre-post-task activities.

The set of integrated skills-tasks foregrounds one main language skill, which is generally regarded as the most important skill in academic study: academic writing. In other words, for each task the outcome is a written essay. The two receptive language skills, listening and reading, both involving reproduction and comprehension, are also incorporated in the task to provide information input. The fourth language skill,

speaking, is not incorporated in the task itself. Other skills relevant to the students' academic needs are included: thinking about and understanding the task instruction, planning a response using prior knowledge and experience, extracting and noting relevant information from the information input, consulting dictionaries, preparing a detailed plan for the essay, writing a draft essay and writing the final essay. These encourage the use of higher level thinking abilities: application, analysis, synthesis and evaluation.

The topic selected for each task is intended to address this level. In this study the overall topic of interest is science since the students are preparing to study science at university, under-graduate level. As already mentioned, the scientific content of the topic chosen for each task is intended to address this level within an ESAP framework. Therefore it is intended, first and foremost, to encourage progress in using English as a second language and not to pose cognitive demands that are too high in terms of both content and technical genre.

There are five pre-post task activities in which each integrated-skills task of the series is embedded and the rationale for these is now also set out. They include the fourth language skill: speaking. During these activities, as well as during task performance, the students' learning is mediated to help them progress in their use of English individually, throughout the programme. In the pre-task activity, the task format and the task demands are discussed using assessment criteria, designed according to the principles set out in Chapter 3. Thus, through a process of familiarisation, the students are encouraged to enhance their understanding of their own ability in relation to the task goals and their own long-term goals. In the four post-task activities, through task repetition in two group session discussions and through two one-to-one interviews, by reflecting on their experiences of doing the tasks, they are encouraged to gain a meta-awareness of their own language development and to use this to gain control over their learning.

4.3.2 The rationale for the research study

Because of the nature of the teaching programme: i.e. that students are learning English as a second language for their academic studies through the Hallidayan perspective on language in use by carrying out a series of integrated-skills tasks, it is essential that the methodology to examine this approach is qualitative. While the pedagogical rationale for the tasks, as discussed above, is fundamental to the creation of a teaching instrument, it is clear that, within the context of a research study, this same instrument allows for the production of an essay, which is direct, qualitative data of the students' language in use. In fact, one of the purposes of a series of essays resulting from the five tasks will be to provide qualitative data about the students' progress in developing their second language use across the tasks.

The pedagogical rationale shows how the pre-post-task activities are also fundamental to the learning process for the students' use of English as a second language. At the same time, the post-task activities provide data from the individual interviews with the students which are, by definition, qualitative.

Thus, overall, the different components of the teaching programme are able to provide qualitative data for the research study in the following way:

- Direct qualitative evidence of students' progress through their essays.
- Indirect qualitative evidence of students' progress through their individual interviews.

In such a study, the methods for analysing the data must respect the qualitative nature of the data collection. There are three principle instruments created to allow such an analysis.

- Firstly, it is essential to develop a set of four, holistic assessment criteria which can be applied to each student's essay to provide a global, partly qualitative and partly numerical indication of the level of the students' second language use. They are: Overall Impression, Content, Organisation and Language. The criteria will be developed to show progress across these four areas with band descriptors at five different levels: 1 being the lowest level and 5 the highest level.
- Secondly, a more detailed analytical framework, based on Halliday's systemic functional description of language use, will be developed and applied to each student's essay. It is envisaged that this framework will allow the marks given by the banded assessment criteria to be explained at a deeper, more detailed level. This text analysis will incorporate key features of language use, and thus reveal whether or not these features indicate the nature and extent of the students' progress qualitatively. The key features will represent four different strata: contextual (hyperthematic organisation); textual (thematic progression and cohesion); clausal (thematic and rhematic distribution of information); and lexicogrammatical concerning features that are representative of scientific discourse (nominalisation and passive verb forms).
- Thirdly and lastly, following the approaches to learning developed by Marton et al. (1997) and discussed in Chapter 2, it was thought that an attempt might be made to examine the students' approaches to each task through scrutinising the indirect data provided during the post-task activities and micro-task data in the form of student notes during performance. For the moment, three approaches are thought to provide a framework for the analysis: a deep approach which would reveal an attempt to understand the nature of the task and thus address the task demands effectively; a strategic approach which would reveal an attempt to address the demands in order to succeed; a surface approach which could show attempts to produce an immediate solution to the task.

CHAPTER 5

THE RESEARCH DESIGN: PART 1

5.1 Introduction: The Context

The focus of this research was an integrated-skills, task-based course that took place over a period of five months, as part of the English teaching aspect of a preparatory programme. The integrated-skills, task-based course was designed to help a group of Japanese students improve their language in use, particularly their academic English.

The one-year programme which the students were attending was designed to prepare them for an entrance examination to gain acceptance for undergraduate study at London University in subjects relating to science and mathematics. It was an intensive taught programme that was divided into three terms, in line with the Japanese academic year, from April to March. It was preceded by a twelve-day, intensive, induction course and all teaching was in English. The induction course aimed to familiarise the students with their new surroundings and to introduce them to basic scientific English in preparation for their science classes. The programme was divided into two parts, the English classes and the science and mathematics classes. During the first term (April-June), each part occupied approximately 50% of the time. The purpose of the English classes was to enable the students to study the subject matter effectively. Therefore it directly fed into the science and mathematics being taught on the course. During the remaining two terms (October-December and January-March), the English classes were limited to 25% of the time while the science and mathematics occupied 75%. At this stage, the English classes needed to prepare the students for their future university studies within the English-medium academic culture. The integrated-skills, task-based course was designed specifically to do this. It took up approximately one-third of the English classes. The students' marks for two of the five tasks, the second and fifth, counted as official marks for the internal examinations at the end of term and end of course respectively. Appendix A-5.1 shows how the integrated-skills, task-based course formed a part of the students' whole academic programme.

The Different Components Of The Study

It is important to distinguish between:

- the integrated-skills, task-based course, which is the pedagogical aspect of the study and
- the investigation, which is the research aspect of the study and the focus of this thesis.

The investigation takes as its focus the integrated-skills, task-based course described in Section 5.1 above. The main purpose of the investigation is to examine the progress of the Japanese students in learning English as a second language in an academic context. The theoretical concept driving the research study and its design is derived from Michael Halliday: i.e. that language learning should be take place within the context of language in use. Thus, the present investigation follows the students' progress in improving their

English as a second language through using the language in an integrated-skills, task-based course.

The integrated-skills, task-based course comprises the following components:

- a) A pre-task group discussion;
- b) An integrated-skills task;
- c) Post-task Interview 1;
- d) Post-task Group Discussion 1;
- e) Post-task Interview 2;
- f) Post-task Group Discussion 2.

The investigation focuses on components (b), (c) and (e), thus excluding data from all pre-post task discussions.

5.2 The Sample

The sample was a cohort of six Japanese students attending the one-year Intermediate Certificate for Science and Mathematics (ICS&M) Programme at the School of Education, King's College London. The students were young adults, three women and three men, aged between 19 and 24 years old. All had received a minimum of six years' English tuition under the Japanese secondary school system. Four students had just completed their secondary education in Japan, and one in Britain, having spent the past four years at a Japanese secondary high school. The oldest student had just completed a university degree in Philosophy in Japan.

The study focuses on three of these six students:

- Keiko, a 19-year-old woman, who spoke English quite fluently and whose main interest was in biology. Her ambition was to work for an international environmental organisation.
- Masaki, a 19-year-old man, who spoke English hesitantly and whose main interest was in physics: the amplification of sound. He had come to the UK because he hoped to receive a more thorough grounding in this area than he might in Japan.
- Takako, a 24-year-old woman, who had already graduated with a degree in Philosophy in Japan. She had great difficulty speaking in English but hoped that, being a woman, her career opportunities would be better in the West than in Japan. She wanted to study the philosophy of science.

5.3 The Design of the Course for Collecting the Data

5.3.1 The schedule for the implementation of the integrated-skills, task-based course and the research study

The integrated skills, task-based course comprised five ISTs. The first four parts were identical in format.

They consisted of six sessions: a pre-task session, a task session and four post-task sessions as shown in Table 5.3.1a. The fifth and last part consisted of only three sessions: a pre-task session, a task session and one post-task session. Each of the first four ISTs was carried out over a period of 18 days and separated from one another by an interval of between two and five weeks, depending on the dates of the terms and the end-of-term examinations. Part 5 began six days after the completion of Part 4 to fit in with the end of year examinations as shown in Table 5.3.1b. (See Appendix A-5.3.1 for the complete schedule).

Table 5.3.1a: The order, duration and day of the task-related sessions for Parts1,2,3,4.

One group of IST-related sessions	Duration	Day of session
Pre-task Discussion	1 hr	1
IST1 session	3 hrs	8 (morning)
Post-task Interview 1	30 mins	11
Post-task Discussion 1	2 hrs	15 (morning)
Post-task Interview 2	20 mins	15 (afternoon)
Post-task Discussion 2	30 mins	18

The timetable showing when the implementation of the study took place during Terms 2 and 3 is set out in Table 5.3.1b.

Table 5.3.1b: The timetable of the five parts of the IST course

Part	Term	Weeks	Comment
1	2	3-5	The six IST1-related sessions
2	2	9-11	The six IST2-related sessions: after a three-week interval and as a part of the end of term examinations
3	3	2-4	The six IST3-related sessions: after the winter vacation
4	3	7-9	The six IST4-related sessions: after a two-week interval, during which the Kobe earthquake happened.
5	3	10-11	The two IST5-related sessions: after a six-day interval, as a part of the end-of-year internal examinations.

5.3.2 The Setting

The students were told about the integrated-skills, task-based course and the investigation in advance and so were prepared for the series of intervention sessions to be held during their English course. All sessions were arranged to fit within the timetable of the students’ English programme. As mentioned earlier, the integrated-skills, task-based course lasted for 5 months and the students were given a schedule with the dates for the different sessions ahead of time.

All these sessions, apart from IST5 session, were held in the same room. It was rectangular, well-proportioned and large enough to seat the students and myself comfortably. For the task session the students sat at separate tables positioned so that they each could sit comfortably without being too close to one another and were able to see both the video screen and the white board clearly and have easy access to dictionaries on a table in the middle.

I sat between the white board and the video screen so that I could operate the equipment without disturbing anyone and be a participant observer. During the session I made field notes of the students’

behaviours and of any extraneous events such as noises and weather conditions which might have an influence on the students' performances. No collaboration was permitted. Only one person was allowed out of the room at any one time. At the end of the session the students were asked to write their names on the texts they had used and to hand them in with their notes and their essays.

There were a few problems with attendance that were unpredictable and beyond my control as researcher. For example, the severe earthquake in Kobe occurred on the morning of the preparation session for IST4 and three students were absent. Other individual circumstances due to pressure on the main course: illness, travelling in London and living in another country, were taken into consideration. All the students attended the most important sessions, the task performance session and both post-task interviews.

5.3.3 Data Collection

The Data Gathering Instruments

The programme consisted of six data gathering instruments, one major and five supporting instruments, to address the research questions:

- the major instrument:
 - a series of five timed integrated skills tasks (ISTs), identical for all students in the sample
- the five supporting instruments:
 - two semi-structured, post-task, one-to-one interviews,
 - three group discussions:
 - one pre-task discussion,
 - two post-task discussions, one after each interview.

These instruments are described in more detail in Section 5.4.

The Data

There were two major sources of data:

- i student data resulting from carrying out the ISTs, in the form of
 - the students' written essays
 - the students' micro-task notes for each IST (Steps 2-7 as explained in Section 5.4.1: Format).
These were:
 - their initial notes in response to the task instruction (Step 2)
 - their notes of the audio-visual input (Steps 3 and 4)
 - their notes of and markings on the textual input (Step 5)
 - their plan/draft of each essay (Steps 6 and 7)
- ii student data resulting from the pre-post-task activities
 - transcriptions of the recorded post-task interviews 1 and 2
 - field notes about the students' behaviour during all sessions

All the above are simultaneously pedagogical instruments.

The additional pedagogical instruments:

three group discussions – one pre-task discussion and two post-task discussions

5.3.4 Data Analysis

Three different instruments were developed to address the research questions:

- (i) a set of assessment criteria and a system of band marks, the purpose of which was to assess the level of the students' essays in order to address Research Question 1A.
- (ii) a text framework to address Research Question 1B. The purpose of this instrument was to gain a deep understanding of the students' use of their second language as evidenced through their essays, thus expanding on the results of implementing the assessment criteria.
- (iii) A framework for providing a description of the students' approaches to working on each IST to address Research Question 1C. The purpose of this analysis was to inform about the actual process of doing the task and writing the essay. Therefore the data was derived from the post-task interviews and the students' micro-task notes for each IST.

The findings resulting from addressing these three questions were synthesised to address the main research question: Question 1.

Further details of the above instruments are given in Chapter 6.

Final Output: The Student Profile

The aim of the study is to examine the students' progress in the integrated-skills, task-based course through drawing up a synthesis of the results of the analyses generated by the three different frameworks, described in more detail in Chapter 6. Thus the final output is a profile for each of the three students where the findings from these three analyses are compared across the five the integrated-skills, tasks.

Finally, also contributing to this profile is an analysis of the links between the assessment criteria and the text analysis (See Appendix A-6.3.4 for further details.).

5.4 Further Details Of The Data Collection

As mentioned above, there is one major data collection instrument, the student's essay for each IST (St-IST), and two supporting instruments: the two post-task one-to-one interviews.

5.4.1 The Integrated Skills Task (IST)

(one group session: 3 hours)

The ISTs were implemented as if they were performance tests (McNamara 1996). Each IST session began at 10.00 hours and lasted three hours, ending at 13.00 hours.

The students had access to the following dictionaries: Collins CoBuild, Collins Concise, Advanced Learner Oxford, Concise Oxford, Longman's Contemporary, Longman's Activator, Penguin Science. On the

white board was written the times of each step of the task procedure so that the students could check the progress of their work. At the beginning of the session, the students were given the handout of the A4 page containing the IST (see Appendix A-5.4.1ii), paper for their micro-task notes and paper for writing the essay.

Each of the five ISTs used in this study had exactly the same format but different content. They were designed to be as similar as possible in level of difficulty and about science topics that were relevant to the students' interests so that any changes in the students' performances across the tasks would not be attributed to these two factors as far as was possible but to their progress in learning to use their second language. The design was refined as a result of trialing many similar tasks over several years. During these pilot studies, experiments with different formats of the task procedure and different content had been tried. The main considerations were:

- the appropriateness of the topic,
- the appropriateness and the linguistic and cognitive levels of the task instruction,
- the linguistic and cognitive levels of the audio-visual documentary and the textual information inputs,
- how the two inputs related to one another.

The task was to write an essay addressing a specific task instruction within a period of three hours using relevant information from audio-visual and textual input that was provided and using prior knowledge and experience. No speaking was involved. The content, which comprised the topic, the task instruction, and the information input, was not revealed in advance of each task performance. A separate, detailed analysis of the content of each of the five ISTs is given in Appendix A-5.4.1ii. Now follows a description of the format and content of the five ISTs.

The Format And The Procedure

The procedure for carrying out each IST comprised eight timed steps in sequence, with each step leading to the next. The order and timing of the steps were planned to encourage the students to make the best use of the three hour session in order to prepare and write their essay. Hence each step was a microtask instruction that guided the students through the IST as follows:

- Step 1: to read through and think about the whole procedure of the IST (10 mins).
- Step 2: to think about the task instruction (10 mins).
- Step 3: to watch the video documentary and take notes (20 mins).
- Step 4: to recall relevant information from the documentary and make notes (10 mins).
- Step 5: to read the written text and to take notes from it (30 mins).
- Step 6: to plan the essay.
- Step 7: to write the first draft.
- Step 8: to write the final essay. (For Steps 6-8: 90 mins)

The students were allowed to keep the text until the end of the task.

They needed to write a complete essay directly addressing the task instruction within a time limit of three hours. In order to do this, the integration of certain skills was required:

- understanding, interpreting and analysing the task instruction,

- selectively using dictionaries,
- thinking about how to address the task instruction ,
- understanding the main gist and important details of information in the documentary input,
- extracting information from the documentary relevant to the task instruction,
- understanding the main gist and important details of information in the text input,
- extracting information from the text relevant to the task instruction,
- synthesising the information by selecting and organising it appropriately,
- planning an appropriate essay structure,
- writing a coherent essay through selecting and using appropriate language,
- working efficiently so as to complete the essay within the time limit,
- distributing the time allowed effectively, particularly in Steps 6-8,
- using appropriate strategies to address each step of the IST.

The step by step procedure for the five ISTs was set out in written form on a single A4 sheet as a student handout (see Appendix A-5.4.1i). The handout described in general terms to the students what they needed to produce by the end of the task session and how to proceed, stating that they could use English-English dictionaries. The five specific student handouts for each separate IST were also set out in the same format and included the task instruction and the titles of the documentary and written text information inputs (see Appendix A-5.4.1ii).

The Content

For every IST, the content of the task instruction, the documentary and the text was different. Therefore it was felt necessary to analyse these features to see how difficult they might be for the students and to make judgements about their ease or difficulty. Details of these analyses are given in Appendix A-5.4.1ii. A brief summary of the content features are given in this section so that the composition of each IST is clear to the reader.

Table 5.4.1 shows the topic, the task instruction and the titles of the information inputs for each IST.

Table 5.4.1: The content of the five ISTs

IST	Topic	Task Instruction	Documentary	Text
1	Energy	Discuss the advantages and disadvantages of using the wind turbine as a means of supplying energy. Compare it with other means of supplying energy.	Energy transfer devices	The answer is blowing in the wind
2	Water pollution	Describe the causes and effects of water pollution. Discuss how the chemist can help to improve the situation.	Chemists at work	Water
3	Space	Concerning the use of satellites in space, why is the concept of thrust important to mankind? Discuss this with reference to the progress made between 1980 and 1991.	Newton and the Shuttle	Eye in the Sky
4	Evolution	Describe Darwin’s theory of evolution. Discuss how it has contributed to further knowledge and change.	Darwin and Evolution	Back to our origins
5	Genetics	Show how the discovery of the gene has led to important developments in science.	Genetics and Genetic Engineering	Breakthrough in gene warfare

The Topic

Popular science topics were chosen because they were likely to be of general scientific interest to the students and familiar to them. Their ordering in the series was entirely random.

The Task Instruction

For each task the instruction was designed to be the focus of that task and the information needed to be selected and presented so that it directly addressed that instruction.

The Information Inputs

Both the audio-visual and textual information inputs were selected from the same series of sources for

- their appropriateness to the students' situation,
- their consistency with respect to
 - level and density of content,
 - level and nature of language use,
 - clarity of presentation,
- the likelihood that they would be unseen by the students.

The five audio-visual inputs were twenty-minute documentaries about a science topic from a series called 'Science Topics' produced by the BBC and had previously been included in the BBC education programme for schools. The series was designed for the typical 14-16 year-old, British secondary school student. They were deemed suitable for the student sample, linguistically, paralinguistically and extralinguistically, for three reasons.

- They were authentic, educational materials used by native speakers for learning about science.
- They dealt with science topics that were interesting and suitably general so as not to assume too much scientific knowledge.
- 'Science Topics' documentaries had been used in the trialing of other ISTs with other Japanese students having similar needs and goals and had been found entirely appropriate for developing the students' use of English. (See Appendix A-5.4.1ii) for a detailed description and analysis of each one of the five documentaries.)

The five textual inputs were authentic extracts from five articles which had previously appeared in the Guardian Education section of 'The Guardian' newspaper. Each text was taken from the same series, which were intended for a similar audience to that of the documentaries: the typical 14+ year-old, British secondary school student, and were deemed suitable for the same reasons. (See Appendix A-5.4.1ii for each one of the five texts and a detailed description and analysis of each text.)

Appendix A-5.4.1ii also contains a detailed description of the content for each IST: i.e. the relationships among the task instruction and the two information inputs.

5.4.2 The two Post-task Interviews

Both interviews were semi-structured. (See Appendix 5.4.2.) In general, during both interviews, I tried to formulate comments and questions in such a way as to help the students

- overcome any language difficulties which might hinder their intended meaning from being clearly conveyed,
- talk about their performance in the IST however they wished,
- talk about themselves and their learning in relation to the IST and more generally.

a) Post-task Interview 1

(one-to-one: 30 minutes per student)

The purpose of the interview was partly to find out as much as possible, through the students' initial reactions, about:

- their impressions of the IST,
- how they thought they had coped,
- the strategies they thought they had used,

and partly to relieve any anxieties the students may have felt after doing the IST.

For ISTs 1-4, the interview was held on Day 11, the third day after the IST session and, for IST5, it was held immediately after IST5 session. Ten minutes before the interview I gave each student their own copy of the textual information input used in the task to help them refresh their memories about the IST and to prepare for the interview. During the interview the students were each asked about the IST, the topic, the content, the task instruction, their reactions to the task, what problems they had encountered in trying to address the IST, the strategies they used to solve them.

b) Post-task Interview 2

(one-to-one: 30 minutes per student)

The purpose of this interview was to

- provide individual feedback to the students on the quality of their performance according to the assessment criteria,
- encourage them to reflect on their strengths and weaknesses,
- encourage them to discuss features in their essays that might be significant,
- clarify any misunderstandings that might have arisen from what they had written,
- enhance the students' understanding of the assessment criteria.

The second interview was held on the afternoon of Day 15, after Group Discussion 1. It was semi-structured so that both student and interviewer could discuss any further thoughts on the IST and on doing the IST.

In each second interview, the marked essay for the relevant IST was returned to the student. Then I gave feedback on the essay using the assessment criteria. I encouraged the students to comment on the IST, their own performance, their strategies and their strengths and weaknesses. Thus the structure of the interview

was guided by each student's essay, my specific comments and questions about their essay and each student's reactions to my comments.

As interviewer I was aware that extreme sensitivity needed to be shown towards the students' possible limited fluency and degree of willingness in communicating orally in English as a second language. The students were encouraged to elaborate on any of their comments that were not clear, rather brief or seemed incomplete.

5.4.3 Further Pedagogical Instruments: The Pre-post-task Discussions

These sessions were essential to the pedagogic approach. They were used to help the students become familiar with doing the ISTs and adopt a reflexive and critical approach to their development using a combination of introspective and retrospective methods, as Faerch and Kasper (1987) describe in the context of second language learning. They were not used as data.

a) The Pre-task Discussion

(a group session: 60 mins for Part 1 and 30 mins for Parts 2-5)

The pre-task discussion was held on Day 1, one week before the IST session. The purpose was for the students to

- in the case of IST1, become familiar with the format and the assessment criteria and, in the case of the remaining four ISTs, remind themselves about the format and the assessment criteria,
- start thinking about how they would tackle the next IST by reflecting on their strengths and weaknesses in the light of their past performances.

At the first pre-task session, before IST1, the students were given two sheets, one containing the task format showing the procedure as it would appear on the task sheet but without the content items (see Appendix A-5.4.1i), and the other, the assessment criteria to be used for marking the essay (see Table 6.1).

The students were told that, while doing the task, they could

- use their own English-English dictionaries,
- use the English-English dictionaries displayed on a table in the room,
- not have any contact with any of their peers.

b) Post-task Discussion 1

(one group session: approximately 70 minutes)

This session was held on the morning of Day 15, exactly one week after the IST performance. The purpose was to revisit the IST, going through the whole task in order of procedure and encouraging discussion about it. At every step of the procedure, they were invited to make suggestions and ask questions about the content, organisation and language that were useful for preparing the essay. Thus the students were encouraged to

- recall the IST and the process of doing it,
- gain an enhanced understanding of the IST demands and of the information input,

- become more familiar with the language used in the information input,
- reflect on their own performance,
- gain an enhanced understanding of their own strengths and weaknesses in relation to working on the IST.

c) Post-task Discussion 2

(one group session: 30 minutes)

This discussion was held on Day 18, three days after the second interview. The purpose was to encourage the students to share their reflections about the IST so as to

- raise awareness of the fact that the IST could be addressed in various ways, not in any one ideal way,
- encourage collaborative learning during the session,
- encourage further reflection on addressing the IST with the benefits of hindsight.

The session was very loosely structured so that the students' self-initiated comments could be followed up. When appropriate, I provided occasional stimuli such as reminders of previous comments or suggestions made.

5.5 A Critique of the Study

A critique of the methods used to design the course, to collect the data and to analyse the data is given at the end of Chapter 6.

CHAPTER 6

THE RESEARCH DESIGN: PART 11 - THE DATA ANALYSIS

Introduction

Three analytic instruments were developed. Two analytic instruments were used for each essay:

- a) a set of assessment criteria for establishing the level of English use in the essay,
- b) a linguistic framework to give a deeper text analysis.

In order to analyse the way in which each student approached the task, a third framework derived from work in the field of learning was adapted for this study. These three instruments are described in turn.

The next section provides a summary of the checks for consistency that were carried out on the three analytical frameworks and on the coding of the data using these three frameworks. The final section is a critique of the methods used to analyse the data.

6.1 The Assessment Criteria

6.1.1 The function of the Assessment Criteria

The Assessment Criteria were used to address Question 1A:

To what extent and in which ways does the students' use of English as their second language show progress in relation to the assessment criteria for the essays based on the goals of the course?

They were designed to play a key role in the study, which was both summative and formative by:

- a) providing information about the second language use of the students in their essays, where each essay was the outcome of addressing an integrated skills task,
- b) being sufficiently detailed to guide the students' development of second language use.

6.1.2 The selection of the Assessment Criteria

Their selection was informed by:

- a) considering the criteria used in performance tests that in some way resemble the goals of the ISTs viz. the TEEP, IELTS, UETESOL and the test used by Paltridge (1992) as discussed in Chapter 3
- b) a process of refinement through trialing earlier versions with similar ISTs.

They were needed to provide numeric and qualitative information about each essay, the qualitative information providing details about the semi-quantitative information.

As a formative instrument the criteria were intended to describe language use in the context of the IST demands for the students so that they

- a) would know what expectations were being made of them,
- b) could reflect on their strengths and weaknesses in addressing the tasks in retrospect,
- c) might be guided towards ways of improving their performance in the next task.

As a summative instrument they were used to guide the assessors' marking of the essays in order to:

- reflect the complexities of second language use in accordance with the aims of the study,
- be applicable to all the tasks in general and to each task specifically,
- reflect the demands of the task instructions,
- be as simply expressed as possible so that they could be used effectively by the key participants: the students, the assessors and me as teacher and researcher.

Four criteria were selected: Overall Impression, Content, Organisation and Language. Table 6.1 below presents the categories that comprise the four assessment criteria.

Table 6.1: The assessment criteria and their categories used in the study.

Main Criteria	Categories	Details
Overall impression		
Content	comprehensiveness	coverage of task instruction
	evidence of comprehension	of task instruction, of audio-visual and textual inputs
	relevance	to task instruction
	use of information	of information input and of knowledge and experience selection of main points and supporting detail elaboration of main points with detail
Organisation	textual layout	distribution and ordering of paragraphs
	textual cohesion	ordering and linking of points
Language	intelligibility	clarity of meaning, presentation
	appropriateness	of discourse: style, register, genre
	fluency	range of expression, choice of vocabulary and grammar
	accuracy	use of lexical and grammatical patterns

The selection of these criteria and their categories now needs to be explained in order to appreciate their role in the study.

Overall Impression is widely accepted as a necessary criterion in writing connected text (Alderson at al. 1995, Paltridge 1992). It provides an independent, impressionistic assessment of the student's work recognising, firstly, that a certain amount of subjectivity cannot be avoided and, secondly, that an assessment based on entirely an atomistic breakdown of linguistic features can provide only a limited account of language use and not the whole picture.

The other three criteria, *Content*, *Organisation* and *Language*, were needed to describe language use in the context of the IST demands. They are regarded as equally important and essentially interlinked thus reflecting the complexities involved in language use and the interdependency of context, meaning and language. Hence, although *Language* as a criterion is clearly essential, it operates as a tool for communicating meaning. A well-structured nominal group, clause, or sentence has no value without content that, in turn, is situated within a context. This is essential for communicating meaning: a point which

Widdowson has argued at length (1983). Thus the criterion of *Language* is dependent on the criterion of *Content*. Both these criteria are necessary but not sufficient because they do not account for the fact that the information cannot be successfully communicated to the reader unless it is well-organised (McNamara 1996). It is only then that it becomes clearly contextualised. Therefore, the third criterion, *Organisation*, is necessary.

As Table 6.1 shows, the breakdown into categories is different for each of these three criteria due to their nature. The categories concerning the nature of essay Organisation can be contained within two parts, whereas the categories of Content are described in four parts, and further sub-divided, because they relate to the context of the task that directs the essay text: the task instruction and the information inputs. The categories of Language are also described four parts, and further sub-divided, to recognise the range and diversity of linguistic features. These three criteria are now each considered separately.

Content

In *Content*, certain cognitive aspects of doing the ISTs are foregrounded. The selection of information partly depends on understanding the information provided in the inputs. It also depends on understanding the demands of the task instruction and on making appropriate connections. Prior knowledge and experience are an additional resource that can be used to address the task instruction, either independently of or to complement or supplement information taken from the inputs. This rationale produces the categories for *Content* shown in Table 6.1. They can be described in summary as follows:

Comprehensiveness: coverage of the task instruction

- how much of, and in what depth, the task instruction is addressed within the time constraints

Evidence of comprehension of the task instruction

- how well the instruction appears to be understood both as a whole and in its separate parts

Evidence of comprehension of the audio-visual and textual inputs

- how well the content that is presented in the two input modes appears to be understood

Relevance to the task instruction

- how well the selected content relates to the task instruction

Use of information: use of the information input

- how appropriately and accurately the content taken from the given input appears to be used

Use of information: use of knowledge and experience

- as indicated by the expression 'may use' in the IST instruction sheet, how well prior knowledge and experience appears to be used, if it used

Use of information: selection of main points and supporting detail

- whether the main points are well selected and supported by detail

Use of information: elaboration of main points using detail

- whether the main points are well developed using appropriate detail

Organisation

In *Organisation*, within the context of the IST, the textual level is important in two respects. One is the overall organisation of the information as it relates to the task instruction: the structuring of the content in paragraphs including an introduction and a conclusion, and the sorting of the selected information signaled in the Content criterion into main points, subordinate points and details. The other is the organisation of the language to achieve textual cohesion, e.g. the selection of appropriate cohesive devices such as conjunctives, adjuncts, ellipsis, lexical organisation and referents (Halliday 1994) or the structuring of clauses for appropriate emphases. Without cohesion, the text cannot be coherent (Halliday 1994:339).

This rationale produces the categories for *Organisation* shown in Table 6.1, described in summary as follows:

Textual layout: the distribution and ordering of paragraphs

- how clearly the information is arranged in distinctive paragraphs and in a comprehensible and logical order including an introduction and conclusion

Textual cohesion: the ordering and linking of points

- how well the points are arranged and linked to show logical connections and the distinction between main and subordinate points

Language

In *Language*, intelligibility is a key consideration. It is partly about the extent to which the meaning is conveyed successfully to the reader on all strata interdependently: textual, paragraph, sentential, clausal, phrasal, lexicogrammatical and morphological (Hoey 1998). It is also about presentation: legibility and clarity in the use of punctuation and the formatting of paragraphs and sentences.

Another important feature is fluency (Brumfit 1984, Skehan 1998). It reflects the ease with which something has been expressed through choices made at the inter- and intra-sentential levels, and at the lexicogrammatical level.

Two other important considerations are accuracy (Brumfit 1984, Skehan 1998) and appropriateness in terms of acceptability (Corder 1973:103). Linguistic accuracy is desirable but not always essential to successful communication whereas appropriateness is regarded as being very important in successful communication. It is concerned with the choices of discourse that need to be made to communicate the intended meaning to the reader within the framework set by the task demands. Therefore linguistic choices have to be made in terms of register, genre and style.

Register, as defined by Halliday (Halliday and Hasan 1985) is to do the level of formality that is used to convey a message. It is determined by the context: by what is being communicated the interpersonal relationships between the people involved in the communication and the mode of communication. In academic written discourse where abstract concepts are described and discussed, as in writing about science, the register needs to be fairly formal.

Genre in language for specific purposes is also important as Swales has argued (1990) because it reveals the conceptual framework within which language is used and with the goal-orientation of the text.

Three aspects of genre relevant to the task-based written essays are involved: that of essay writing, that signaled by the task instruction and that6 of the science topic itself.

Style is related to both register and genre. It is to do with consistency and clarity of expression: consistency in there being no sudden switching of register or genre; clarity in the expression of simple and conceptually complex ideas.

This rationale produces the categories for *Language* shown in Table 6.1, described in summary as follows:

Intelligibility: clarity of meaning

- how easily the meaning can be understood by the reader

Intelligibility: presentation

- how easily the essay can be read in terms of legibility, spelling, punctuation and layout

Appropriateness of discourse

- how appropriately the language is used in terms of register (level of formality), genre (of essay writing and of the topic) and style (consistency).

Fluency: choice of expression

- the acceptability of linguistic choices in expressing nuances of meaning

Fluency: range of vocabulary and grammar

- how wide a range of language is used to capture nuances of meaning at the levels of connected discourse and lexicogrammar

Accuracy: use of lexical and grammatical patterns

- how accurately language is used at the lexicogrammatical level

6.1.3 Applying the Assessment Criteria to the essay

The purpose of the categories is to provide a fuller description of the possible ways of interpreting the three criteria in such a way that could be user-friendly, both for the students and the assessors. Therefore, four marks, one for each of the four assessment criteria were given for each essay. Band descriptors were designed accordingly to indicate levels of performance. They were expressed as predictions of the students' chances of academic success in undergraduate study at an English-medium university, with respect to their competence in language use but not, it must be emphasised, in science.

5 (excellent)	Language use will greatly facilitate academic success at undergraduate level.
4 (good)	Language use will facilitate academic success at undergraduate level.
3 (fair)	Language use may facilitate academic success at undergraduate level.
2 (poor)	Language use will hinder academic success at undergraduate level.
1 (very poor)	Language use will greatly hinder academic success at undergraduate level.

No absolute values are implied. For example, Band 5 does not indicate perfect performance but highly acceptable performance and the band for one criterion represents a combination of the levels of the subcategories of that criterion. The band descriptors for each of the four criteria at each level are given in Appendix A-6.1. The check for consistency among the assessors is discussed in Section 6.5.1 at the end of this chapter.

6.1.4 Examining Progress

Once marks have been agreed for each essay, it becomes possible to examine progress. For each criterion across the five essays for each student, the five marks and accompanying descriptions are compared to find out whether, when, and what kind of progress has been made in relation to the Band levels.

6.2 The Textual Framework for the Analysis of the Essay

The main purpose of carrying out a detailed analysis of each essay text was to address Question 1B:

What does a text analysis, inspired by Halliday's ideas, reveal about students' progress in using English as their second language in their essay writing?

First the framework of the analysis is explained. Then an example is given to show how it was implemented.

6.2.1 The Framework for the Analysis

The framework used to analyse the essay texts is drawn from the principles of Hallidayan functional grammar: the rationale being that this approach attempts to examine language-in-use rather than language as a form. Linguistic features are described as interdependent rather than as distinct and isolated from one another. They can be understood in terms of the three metafunctions, ideational, interpersonal and textual, and at all ranks ranging from context, through text, clause, lexicogrammar, down to the morpheme (Hoey 1998).

The analysis concentrates mainly on the textual metafunction. In other words it focuses on three ranks: those of text, clause and lexicogrammar.

The unit of analysis is taken to be the T-unit. The term T-unit, where T refers to 'Theme', is suggested by Fries (1994). It refers to a unit that has one 'Theme' and, in terms of structure, contains one independent clause including all the clauses and adjuncts that are dependent on it. In the following example, there are four independent clauses (in italics) and therefore four T-units.

Example from IST1 text

Most modern wind turbines have a rotor which rotates around a horizontal axis| and the rotor normally has two or three blades.| Machines with a 5m to 15m diameter rotor are being used successfully by a few small businesses such as farms;| they can produce 25 to 125kW of electrical energy, or enough for 25 to 120 homes. (Extract from the text used as information input in IST1.)

[The symbol | is inserted at the end of each T-unit to show where one T-unit ends and the next begins. Each T-unit may end with either a full stop, a semi-colon or nothing if it is followed by a conjunction leading into the next T-unit.]

Since coverage of all textual aspects of language in use would be too extensive, the analytical framework focuses on key elements of the thematic organisation, textual cohesion and key lexicogrammatical features that are typically used in scientific writing.

A Thematic Organisation

Thematic Organisation is analysed at three levels:

- (1) hyperthematic organisation that takes account of T-units in succession,
- (2) thematic progression that takes account of intra-T-unit linking and
- (3) the distribution of information that occurs within the T-unit.

Hyperthematic organisation

In this analysis, the definition of 'Hypertheme' is taken from Martin's discussion of the texture of English text (1992:437-444). The term 'Hypertheme' (coded as 'H') is defined as the entity where a Theme is introduced and developed or extended over three or more T-units. In the following extract each T-unit is identified by a number at the beginning and the symbol | at the end.

Example from IST5 Text

- (1) Scientists have estimated that humans have between 50,000 and 1000,000 genes.| (2)They have learned how to locate genes in chromosomes and have found out how they are controlled.| (3)They can also cut a gene sequence out of one cell and place it into another.| (4)In this case the recipient cell now starts to produce the protein coded for by that gene.| (5)This can change a cell's function, or can correct the function of a cell that is not working properly.| (6)These scientists are called genetic engineers.| (7)Genetic engineering is not restricted to medicine.| (8)It is used to design plants that can grow faster, produce bigger fruit, survive harsh weather condition, or resist disease better.| (9)New genetically engineered plants should help to provide the increased amount of food needed to feed the world.|

This short extract is about progress in genetic knowledge and the application of that knowledge. After the introductory first paragraph, there are two hyperthemes. The first is in T-unit (3) and is developed over two further T-units. The second is in T-unit (7) and is also developed over two further T-units.

Thematic Progression

Thematic progression studies the link between each T-unit.

The composition of the T-unit

The T-unit comprises the Theme and the Rheme (Halliday 1994). The Theme is the initial constituent within the T-unit, or, in Halliday's terms, the clause and is developed in 'the Rheme' which is 'the remainder of the message within the clause' (p37).

The typical Theme in English declarative clauses is the subject of the clause, being realised by the nominal group and containing ideational information. The nominal group can be one word, a noun or pronoun, or a complex group that may even contain an embedded clause. In the following examples the Theme is underlined.

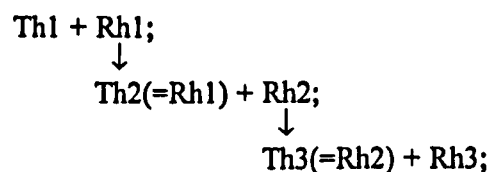
Example adapted from IST2 Text

- (1) Water is essential for life.
- (2) This means that the freshness and safety of water are important.
- (3) The search for fresh and safe water has been a constant concern from earliest times.

In T-unit (2), the Theme is a demonstrative pronoun functioning as an anaphoric reference to all the information presented in T-unit (1). In T-unit (3), the Theme is a nominal group that takes up, as given information, the new information presented in the Rheme of T-unit (2). It also signals new information, 'The search', that is to be developed in the Rheme.

Thematic Progression is a concept (Prague School of Linguistics, attributed to Danes 1970, 1974) that refers to certain kinds of information structure, which are created by the sequencing of Theme and Rheme in relation to given/new information: i.e. whether the Theme and Rheme contain given or/and new information. Two major patterns of thematic progression proposed by Danes are *simple linear progression* and *constant progression* (summarised by Bloor & Bloor 1995, Belmonte & McCabe-Hidalgo 1998) as shown below. The Theme is underlined.

- i *Simple linear progression* (coded as 'sl prog'), 'where an item from the Rheme (Rh) of the first clause becomes the Theme (Th) of the subsequent clause' (Belmonte et al. 1998). In the Rheme it is presented as new information and in the following Theme as given information. Simple linear progression, when occurring over a sequence of several T-units, moves the text forward by new information in the Rheme becoming the Theme of the next T-unit, which is the departure point for further new information in the subsequent Rheme.



Example adapted from IST2 text:

- (1)The ancient Greeks used a system of pipes and tunnels to transport water from reservoirs to cities. (2)Pipes were made of clay and glazed on the inside. (3)This method proved to be very effective.

Here, 'pipes' is introduced as new information in Rh1 and becomes Th2. Rh2 describes how they were made and Th3 takes up that information to introduce Rh3, which appraises the method.

- ii *Constant progression* (coded as 'c prog'), 'where the item in the Theme of the first clause is also selected as the Theme of the following clause' (Belmonte et al. 1998). Constant progression too is useful to investigate since it also permits the text to move forwards. But the text develops to a lesser extent than is permitted by simple linear progression. Thus the repeated Theme can produce lists in the Rheme, hindering the development of the text.

$$\begin{array}{c}
 \text{Th1} + \text{Rh1}; \\
 \downarrow \\
 \text{Th2}(=\text{Th1}) + \text{Rh2}; \\
 \downarrow \\
 \text{Th3}(=\text{Th2}) + \text{Rh3};
 \end{array}$$

Example adapted from IST2 text:

(1)The first civilisations settled around rivers. (2)They sank wells for fresh water (3)and they also discovered that water could be made safer for consumption by boiling it.

Here Th2 and Th3 are the same as Th1, 'the first civilisations'.

Another pattern of progression was later added and is useful to this study, viz:

iii *Split progression* (coded as 's prog'), 'where the Rheme of the first clause is split into two or more items, each in turn being then taken as a Theme element in the subsequent clause' (Belmonte et al. 1998). It is useful in organising a limited section of the text.

$$\begin{array}{ccccccc}
 \text{Th1} + \text{Rh1}(= \text{Rh1a} & + & \text{Rh1b} & + & \text{Rh1c} & + & \text{Rh1d}) \\
 & \downarrow & & & & & \\
 & \text{Th2} + \text{Rh2} & & \downarrow & & \downarrow & \\
 & & & \text{Th3} + \text{Rh3} & & \text{Th4} + \text{Rh4} & \downarrow \\
 & & & & & & \text{Th5} + \text{Rh5}
 \end{array}$$

Example adapted from IST2 text:

(1) Calls for better sanitary conditions by campaigners led to the 1875 Public Health Act in order to improve the water supply through regular inspection, building sewers and reservoirs, and using chlorine. (2) Inspectors were hired to check on standards of water supply and drainage. (3) New sewers were built to separate waste from fresh water. (4) New reservoirs were built to supplement the water supply (5) and chlorine was introduced for the first time to disinfect the water supply.

Here Rh1 contains 'regular inspection'(Rh1a), 'building sewers and reservoirs' (Rh1b and Rh1c respectively), and using chlorine (Rh1d). Rh1a becomes Th2, Rh1b becomes Th3, Rh1c becomes Th4 and Rh1d becomes Th5.

Sometimes each item of the split introduced in the first T-unit is taken up in more than one subsequent T-unit so that the whole progression might take several consecutive T-units to cover the items indicated in Rh1.

Three further concepts to do with thematic progression at the level of the intra-T-unit have proved useful to include in the framework. I have called them *other progression*, *all progression* and *no progression*.

iv *Other progression* (coded as 'o prog')

Occasionally thematic elements are carried over from the Theme or Rheme of one T-unit to the Rheme rather than the Theme of the next T-unit. This frequently occurs where the Theme of the second T-unit is either a

circumstantial adjunct or an empty subject.

Example from IST1 text

Th1	<u>Windmills for grinding corn into flour</u>
Rh1	began to appear in England towards the end of the 12 th century, mainly in places which were unsuitable for watermills.
Th2	<u>As recently as 1919,</u>
Rh2	there were more than 300 working windmills in Britain.

‘Windmills’ in Th1 and ‘England’ in Rh1 are both carried through to the last part of the Rheme in the following T-unit. There is also an occurrence of simple linear progression through the circumstantial adjunct of time introduced in Rh1 as ‘towards the end of the 12th century’ and developed in Th2 as ‘As recently as 1919’.

Other progression is useful since the circumstantial adjunct as Theme can sometimes carry very little information.

v *All progression* (coded as ‘slp+cp+op’)

All progression is not a different type of progression but a combination of simple linear, constant, split and other progression. It reveals the length of sequences where consecutive T-units are linked thematically in some way, regardless of the specific type of progression that is used.

vi *No progression* (coded as ‘no prog’)

This concept refers to those T-units that are not involved in any thematic progression. They are considered in terms of why they are isolated in this way.

Recurring thematic elements

As a result of the analysis, there is a further concept emerging at the textual level which I refer to as *recurring thematic elements*. These are elements of information that recur at different points in the text but not sequentially. They are introduced as new information at a certain point and recur at a later stage as if new although they are actually elements of given information. These are recorded and examined for their contribution to the text.

The distribution of information in the T-unit

The T-unit is an information unit that consists of given information and/or new information (Bloor and Bloor, 1992). If the new information is in the Theme (coded NI-Th), there can be no simple linear or constant progression. If new information is in the Rheme (coded NI-Rh) progression is possible.

The Theme is not necessarily realised as a nominal group in the subject position. It may contain no ideational information and is then referred to as ‘empty’. The empty Theme (coded as E-Th) takes the subject position and serves solely to focus attention on the Rheme. Most commonly there are two types: ‘it’, which

has a purely structural function, and 'there', which introduces existential process (Bloor and Bloor 1995:125). For example:

It is important not to take clean water for granted.

There are many parts of the world where water purification is a problem.

In this study, pronouns such as 'we' are sometimes found to function similarly and, in these cases, are also coded as empty subject.

The notion of empty Rheme proposed by Bloor and Bloor (1992) is also found useful to include in the framework (coded as E-Rh). It describes the Rheme that is devoid of any conceptual content, regardless of how it is expressed.

Summary of Thematic Organisation

To summarise the above section, the textual organisation of framework has three levels:

- a) Textual - Hyperthematic organisation, recurring thematic elements
- b) Intra-T-unit - Thematic progression, of which there are five concepts:
 - simple linear progression,
 - constant progression,
 - split progression,
 - other progression,
 - no progression.
- c) Inter-T-unit - Distribution of information in the T-unit, of which there are four concepts:
 - a) new information in the Theme,
 - b) new information in the Rheme,
 - c) the empty Theme,
 - d) the empty Rheme.

Textual Cohesion

Textual cohesion is defined through three concepts: circumstantial adjuncts as Theme, conjunctive adjuncts and other conjunctives as a part of Theme, and anaphoric references.

Circumstantial adjuncts

As already mentioned circumstantial adjuncts take the form of an adverbial group or prepositional phrase (Halliday 1994). The six employed in this framework are: extent (1), time or place location (2), manner (3), cause or reason (4), contingency (5), angle (or perspective) (6).

An example of each circumstantial adjunct as Theme is shown in italics in the following two examples. The type of adjunct is indicated by the number that follows in brackets.

Example adapted from IST2 text

By the early 19th century (1), contamination of city water supplies was becoming serious. There were four cholera outbreaks in Britain between 1831 and 1866 killing thousands. Jon Snow proved that the outbreaks in London were linked to a public well contaminated by privy vaults nearby. *When the health hazards of privy vaults became clear* (4), people began to discharge their waste into the drainage system designed to take rain-water to rivers.

Through calls for better sanitary conditions by influential campaigners (3), the 1875 Public Health Act came into being. Inspectors were hired to check on standards of water supply and drainage and new sewers were built to separate waste from fresh water supply.

Example adapted from IST3 text

Some scientific forecasts suggest that over the next 30 years the average temperature at the earth's surface may rise by 2C to 3C. *If this does happen* (5), the ice at the North and South Poles will start to melt, causing the sea level to rise. *At the moment* (2), scientists cannot predict what the change will be. *Judging from the way the climate seems to have behaved in recent years* (6), making reliable predictions is not easy.

However, in the analysis no distinction is made between different types of circumstantial adjuncts (all coded as CA).

Conjunctives and other adjuncts (coded as C)

Conjunctives, conjunctive adjuncts and modal adjuncts have an anaphoric and a cataphoric function. They link the information that has already been presented with the information that is to come, not carrying ideational information but acting as textual elements that provide 'a cohesive bond between two clauses' (Halliday 1994:324). They form a part of the Theme but cannot present it as a whole. Conjunctives provide a paratactic link between two T-units and comprise elements such as 'and', 'but' and 'or'. Halliday identifies conjunctive adjuncts that signal three types of expansion in the message: Elaboration, Extension (additive or adversative) and Enhancement (1994:325).

- a) Elaboration is where further clarification or explanatory information is given. It is introduced by such conjunctive adjuncts as: 'for example', 'thus', 'in other words'.
- b) Extension is where additional information in support of or in contrast to the information is given, i.e. supporting information introduced by such conjunctive adjuncts as: 'and', 'moreover', 'in addition', 'nor'; contrasting information introduced by such conjunctive adjuncts as: 'on the contrary', 'apart from that', 'alternatively'.
- c) Enhancement is where the meaning of the previous clause is qualified in some way and thus the text develops. It would be introduced by such conjunctive adjuncts as: 'therefore', 'in conclusion', 'on account of this', 'nevertheless'.

Modal adjuncts have an interpersonal function and may also be positioned at the beginning of the T-unit. They express the attitude of the writer but do not give any ideational information. The two examples of below have conjunctive and modal adjuncts (shown in italics):

Example from IST1 text

The decision to develop wind turbines depends partly on their cost. *But additionally*, it depends on the effect they will have on the environment. *For instance*, they would need to be grouped together in wind farms or parks which may not be aesthetically pleasing for many people.

Example from IST3 text

Like most satellites, ERS-1 uses advanced solar-powered batteries. *But* the batteries can only store enough energy for one orbit, which takes about 100 minutes to complete. *So* the first, and most critical, task for the satellite controllers will be to open its solar panels. *Fortunately*, this operation should not take long.

Here there are four conjunctive adjuncts: 'But additionally', introducing extension; 'For instance', introducing elaboration; 'But', introducing extension and 'So' introducing enhancement. There is one modal adjunct: 'Fortunately'.

Conjunctives, Conjunctive Adjuncts and Modal Adjuncts may occur in many parts of the T-unit but only those that begin the Theme of the T-unit are coded. All others, that do not contribute to the Theme, are not coded.

Anaphoric References (coded as AR)

Anaphoric references 'point backwards' to items already mentioned in the text (Halliday 1994). Two types are: personal reference, where a previously mentioned noun is represented by a personal pronoun e.g. they, his, it; and demonstrative reference where a previously mentioned nominal group is represented by the use of demonstrative pronouns e.g. these, that.

Anaphoric referencing also occurs through substitution and lexical cohesion: 'the use of lexical items in the discourse where the choice of an item relates to the choices that have gone before.' (Bloor & Bloor 1995:100). Two types are:

- repetition of the same item
- the use of a general noun or other referent as a substitution for something specific that has already been mentioned or described, such as: 'the situation', 'this incident', 'that phenomenon', 'the same', 'some', 'the other one'.

Repetition of the same item is signified as given information if it is important for thematic progression.

Example from IST4 text (anaphoric references underlined)

In Darwin's 'On the Origin of Species', the author describes the different species of finch he found on each of the Galapagos islands. These are a group of volcanic islands over 900km off the coast of South America, in the Pacific Ocean.

'The author' is substituted for 'Darwin'. The personal pronoun 'he' refers to 'Darwin' and 'the author'. The demonstrative pronoun 'these' refers to the Galapagos islands. It is important that they are positioned soon after their referents because this makes them clearly identifiable.

C Lexicogrammatical features

The framework covers two features that are used in written scientific discourse:

- i nominalisation
- ii passive verb forms.

i *Nominalisation* (two types, coded as SNom and CNom)

A nominalisation is a nominal group that functions as a noun: 'a single element in the clause structure' (Halliday 1994), where a process and property is expressed as a 'thing'. For example, the sentence: 'Genes are inherited from parents.' can become nominalised into 'Genetic inheritance' or 'The inheritance of genes' since 'inherit' (process) can be transformed into 'inheritance' (thing). The information is presented at the lower rank of lexicogrammar than at the rank of clause and as the nominal component of a clause. When this happens, the meaning is no longer negotiable. The idea that genes are inherited from parents is accepted as a fact. Thus, nominalisation can encapsulate process as given information and can function well as Theme in the clause (Thompson 1996): i.e. in this analysis, the T-unit. A great deal of information can be compacted because meanings are presented at a higher level of abstraction. It is this quality that makes nominalisation a key characteristic of scientific writing (e.g. Halliday 1994, Halliday and Martin 1993).

Structurally, nominalisation can be the result of transformations from verbs, adjectives, adverbs or conjunctions into head nouns or modifiers. Functionally, it is interesting for its appropriateness in written scientific discourse not only because processes are presented as things but also because of its cohesive properties. The following example illustrates this point:

Example from IST5 text

Normally the ADA enzyme is made in all the body's cells. But if it is absent it is the lymphocytes that are particularly vulnerable. Removing an enzyme from a cell blocks chemical pathways, much as removing a bridge from a city street system blocks traffic flow.

In this short extract a great deal of information is assumed as given in the two nominalisations (underlined). They clearly describe two actions, both indicated by the gerund 'removing ...' and are 'Act'-types of nominalisation (Halliday 1994). The first nominalisation presents the information of the previous two sentences as given. It also functions to explain the next step. The second nominalisation explains the information metaphorically in more general terms where no technical knowledge is required. It assumes general knowledge.

Nominalisation refers to processes rather than states. For example, 'the production of energy' may or may not be realised as a nominalisation. In 'The production of energy is an essential part of modern life.' it is not a nominalisation because it is used to describe a state of affairs whereas in 'The production of energy led to more prosperity.' it is a nominalisation because it expresses an action that has an effect.

Nominalisation can be simple and complex in very different ways and to different degrees. Here, they are classified no more specifically than according to these two categories: simple and complex. Simple nominalisations (coded as SNom) are defined as those that indicate only one transformation, e.g. 'Producing

energy leads to...', whereas complex nominalisations (coded as CNom) are defined as those that indicate more than one transformation. For example, in: 'The study of pollution leads to...' two processes are understood: 'polluting' and 'studying pollution'. (Nominalisation is discussed in further detail in Appendix A-6.2.1C.)

ii Passive verbs (coded as PV)

Three types of passive verb forms are considered:

- (1) finite passive verb forms,
- (2) non-finite verb forms,
- (3) elliptic forms.

In their finite uses, they can be simple or extremely complex constructions depending on time and modality. Non-finite uses are mainly infinitives. These are typical features of scientific discourse because they highlight the process rather than the participant or agent (Halliday 1994).

Example from IST4 text

Linnaeus named 5,900 plant species using a binomial system. Today, well over 2000,000 plant species (1) have been identified and (3) named in this way...If two scientists working separately discover the same plant or animal species in different places, and give it two different names, the name (3) used is the first one (2) to be published in a scientific work.

In the analysis no distinction is made among the three types.

6.2.2 Using the text analytic framework

The purpose of this framework is to provide a deeper analysis than that provided by using the assessment criteria. The categories described in Section 6.2.1 were chosen to analyse the students' language use in their written essay texts for the following reasons:

- They can expand on the marks derived from the assessment criteria (see Section 6.4.1).
- They can be coded in terms of the acceptability of the items that are analysed.
- They can be used to examine progress and comparison across the students' performances.

In summary, the following abbreviations and symbols are used in the text analysis:

H: Hypertheme

sl prog/slp: simple linear thematic progression

c prog/cp: constant thematic progression

o prog/op: other thematic progression that is taken up in the Rheme

s prog/sp: split progression

slp+cp+op: all progression

no prog: no progression

T: Theme

R: Rheme

NI-Th: new information in the Theme

NI-Rh: new information in the Rheme

E/E-Th, E-Rh: empty Theme and empty Rheme

CA: circumstantial adjunct in the Theme
C: conjunction, conjunctive adjunct, modal adjunct
AR: anaphoric reference
SNom: simple nominalisation
CNom: complex nominalisation
PV: passive verb form
=: described by
+: in addition)
(): more information
{ }: including
*: not acceptable

In addition, recurring thematic elements are identified as they occur in the Theme and Rheme. Details of the analysis, including an example, are given in Appendix A-6.2.2.

6.2.3 Examining Progress

Once the textual analysis is carried out for each essay, it becomes possible to examine progress. For each item of analysis, a comparison across the five essays is made to find out if progress has been made in that item.

6.3 The Analysis of the Students' Approaches to Addressing the ISTs

The purpose of examining the students' approaches to addressing the IST is to address Question 1C:

To what extent and in which ways do the students' responses show progress in relation to their approach to the tasks set?

6.3.1 The system of analysis

The framework for the analysis of the students' approaches to addressing the ISTs was based on the deep/surface distinction to learning approaches developed by Marton and Säljö (1976), and supported by language learning research (Bialystok, 1994), and the additional strategic approach developed later (Marton et al., 1997). Through an iterative process of examining the data, it emerged that these three major approaches could be broken down into twelve sub-categories, each described in terms of its relation to the task-based programme, as set out in Table 6.3.1 below. The first column lists the three main approaches. The second column presents the twelve sub-categories. The third column describes each approach more specifically again in relation to the IST context.

Table 6.3.1: The students' approaches to addressing the ISTs

Approach	Sub-category	The approaches adopted in the context of the ISTs
deep	holistic	(a) seeking to conceptualise task demands in relation to task instruction (b) seeking to understand self-ability in relation to task demands (c) conceptualising task demands in relation to long-term interests
	reflective	(a) critiquing self-performance (b) critiquing task demands in relation to self-ability and long-term interests
strategic	analytic	(a) analysing task instruction and planning essay (b) critically evaluating the whole task and its components
	skills-oriented	(a) closely following advice and instructions given about task procedure (b) consulting dictionaries to understand instruction and topic and to plan and write essay (c) making extensive notes
	self-regulatory	(a) drawing on previous experience of addressing ISTs to develop strategies (b) balancing input with output processing (c) seeking to improve performance through self-monitoring
	controlled risk-taking	(a) identifying problems with the task and attempting to overcome them (b) exploiting own interlanguage system
	selective processing	(a) prioritising language above content (b) focusing on features of interest
	compensatory	(a) using familiar learning style through automatic transfer (b) drawing on prior knowledge and experience to overcome difficulties (c) focusing on comprehensible input for managing the task
	coping	(a) ignoring unfamiliar challenges to cope with pressing demands (b) seeking to gain control by making the task manageable (c) focusing on the goal of producing a completed essay
surface	atomistic prioritising	(a) selecting only manageable elements of the task as a short-term solution (b) prioritising one aspect of the task at the expense of another
	atomistic quick-fixing	(a) addressing dominant concerns regardless of priority (b) incorporating select phrases from dictionary and text into essay
	uncontrolled risk-taking	relying on trial and error performance

The sub-categories shown in Table 6.3.1 are explained in more detail below.

A deep approach (Marton et al. 1997:19)

A deep approach is generally characterised by the intention to learn for oneself and is thus metacognitive in nature and, in relation to a task-based programme, the student would view the task holistically and reflectively within the whole context of learning.

A holistic, deep approach:

Students attempt to understand:

- the context within which the IST is set,
- the task demands in relation to this context,
- one's own previous knowledge and experience of learning in relation to addressing the task and
- and consider the long-term benefits to self from addressing the task.

It would also mean furthering the acquired understanding to produce the essay through an integration of skills with a constant focus on addressing the task instruction and on conveying the intended meaning to the reader.

A reflective, deep approach:

Students attempt to

- a) develop a critical view of self-ability and of the task, based on the immediate and previous experiences of working on the task, and
- b) evaluate the task and its components in relation to self-knowledge and the task demands.

A strategic approach (Marton et al. 1997:19)

A strategic approach is generally characterised by the intention 'to achieve the highest possible grades' and it is generally recognised that the choice of strategies depends on the nature of the task and, in relation to the task-based programme, would focus sharply on the task demands in relation to the assessment criteria and would seek ways of taking effective action to address those demands. Seven types of strategic approach were identified as providing an adequate analytic framework:

- a) analytical,
- b) skills-oriented,
- c) self-regulative,
- d) controlled risk-taking,
- e) selective,
- f) compensating,
- g) coping.

Each one is described separately below but some overlapping is unavoidable.

An analytical strategic approach:

Rather than viewing the task demands as a whole (holistic approach), students attempt to understand how the task instruction is to be understood and how it is to be broken down with a view to addressing the tasks i.e. to develop an effective plan of the essay. In other words the student carries out a cognitive, critical appraisal of the task as a whole and in its parts, so as to take informed decisions while working through it step by step.

Skills-orientation:

Students select skills that are useful for following the instructions about the task procedure, step by step, such as

- using the dictionary to understand the instruction and the topic, to plan the essay and to become acquainted with the genre of the topic;
- making extensive notes of the information input, and using them and the dictionary information to develop a detailed plan of the essay in a systematic way;
- writing a draft of the essay so as to improve expression in the final essay.

A skills-orientation would be driven mainly by a cognitive understanding of the task demands in the first instance and less by knowledge of self-ability.

Self-regulation (Boud, Cohen and Walker,1993; Zimmerman and Schunk,1989):

Students 'construct' their experience in some way; i.e. they make strategic choices about how to address the task in the recognition that not everything can be achieved and with the intention of producing the best essay possible under the circumstances.

Such choices would depend on a metacognitive understanding of the task demands in relation to self-knowledge drawn on the experiences of doing an IST, focusing on strengths rather than on weaknesses.

Controlled risk-taking (Oxford, 1990:163).

Students try to 'take risks wisely'. It is an affective strategy (Oxford 1990), where the student needs to overcome perceived problems with the task and take informed decisions about

- input and output processing of information,
- language use to express complex ideas, or
- exploiting content knowledge and understanding to develop original ideas.

Selective processing (O'Malley and Chamot, 1995:136):

Students perceive the task to be very demanding so that their attentional focus needs to be limited to certain aspects of addressing it in order to produce the best outcome under the circumstances. This is a metacognitive strategy termed 'selective attention'.

A compensatory strategic approach (Oxford, 1990):

Students exploit personal skills and knowledge, deemed reliable and manageable, thus circumlocuting those aspects of the task that are deemed difficult and unrealistic under the circumstances. Students avoid the use of unfamiliar information or language and exploit familiar aspects, whether they emerge from the task instruction, the information input or prior knowledge and experience. This strategy is distinguished from selective processing by an emphasis on 'achievement' (Dörnyei,1995).

Coping strategies:

Students might proceed in a manner similar to compensatory strategies, but the underlying motivation would stem from lower self-expectations of achieving some or all of the task goals and from higher perceptions of certain difficulties. Such strategies are generally perceived as being more goal-oriented than process-oriented.

A surface approach (Marton et al., 1997:19):

A surface approach is generally characterised by coping with the requirements of the task, an absence of metacognitive thinking and a strong goal-orientation. More specific to the task-based programme, this means taking action when difficulties arise through:

- atomistic prioritising,
- atomistic quick-fixing,

- uncontrolled risk-taking.

Atomistic prioritising:

Students take action in the absence of a holistic understanding or view of the task. They might lack either an understanding of the relationship between the task demands and the assessment criteria or an ability to relate the information input to the task instruction.

Atomistic quick-fixing:

Students take short-term action on affective impulse in the attempt to compensate for perceived shortcomings (e.g. a concern with a limited ability to deal with the content demanded by the instruction or with a difficulty in expressing the content). Such action might also be driven by a concern with time pressure and hence a prioritising of quantity over quality of content through or a prioritising of expression over development of content.

Uncontrolled risk-taking:

In contrast to controlled risk-taking, students take risks without making informed decisions about input and output processing of information and language use in relation to the task demands. Instead their main concern would be to complete the essay.

6.3.2 Examining Progress

Once a description of each student's approaches has been achieved for each IST, it becomes possible to examine progress across the five ISTs. The use of each category of approach for each IST and across the five ISTs can be examined to find out:

- how frequently it has occurred across the IST sessions;
- whether it has been used sequentially or only in one session;
- whether it has been used nearer the beginning and/or the end of the programme.

Thus, consistency and change in approach can be observed and considered as significant factors in each student's response.

6.4 Addressing the main question

The answers to the three questions, Q1A, Q1B and Q1C were brought together in synthesis to draw up a student profile for each of the three students in order to address the main question:

To what extent and in which ways do students' responses provide evidence of progress in relation to the goals of the IST-based course?

6.5 Checking the Consistency of using the Analytical Frameworks

The following three instruments were developed and then checked for consistency:

- 1) The assessment criteria (Section 6.1),
- 2) The text analysis (Section 6.2),
- 3) The framework for the analysis of approaches used to address the ISTs (Section 6.3).

A detailed, step by step account of the three checks is given in Appendix A-6.5.

6.5.1 Checking the consistency of the marking according to the assessment criteria.

Each essay was given four separate marks: one for each assessment criterion: Overall Impression, Content, Organisation and Language. Additional values were given to the score if the standard of the essay was considered to be higher than a given band in the following way:

- Just above the lower band – 0.25
- Half-way between two bands – 0.5
- Approaching the level of the next higher band – 0.75

Four people were involved in marking the fifteen essays: CJ, the researcher; JB, a cognitive psychologist with some knowledge of linguistics; SGP, a linguist; and MC, an outside linguist consultant. JB, SGP and MC were taught by CJ on how to implement the assessment criteria and the band descriptors.

A check for consistency was carried out on a sample of six essays and then on the remaining nine essays.

First Check for Consistency

Marking by JB, SGP and CJ of 6 sample essays: average level of agreement = 79%

Marking by CJ and MC of the same 6 essays: average level of agreement = 42%

However, it should be remembered that JB and SGP had assisted CJ with establishing the assessment criteria and were very familiar with them whereas MC was not.

Part of the difficulty of marking the essays was due to the fact that the students were Japanese, who were expressing themselves in English as their second language, and there was some ambiguity of meaning in their texts. Thus sometimes it was difficult to decide whether certain features in their writing should be considered as aspects of Content, of Organisation or of Language. Once these features had each been clarified it was possible to agree to marks on the remaining disagreements between JB, SGP and CJ and also on those with MC.

Second Check for Consistency

Marking by SGP and CJ of 9 remaining essays: Average level of agreement = 50%

Marking by MC and CJ of the same 9 remaining essays: Average level of agreement = 38%

JB moderated the essays where there was more than one band difference between markers. After discussion, moderation and taking into account the factors that made marking difficult, as set out above, there was a

level of agreement of 89%.

6.5.2 Checking the consistency of the text analysis of the essays

Three people were involved in checking the consistency of the text analysis (see Section 6.2): myself (CJ), my supervisor (JB) and an outside linguist, acting as consultant (CL). There were two major steps:

- to set out a clear and concise description of the analytic scheme to be used,
- to analyse a sample of six essays for consistency, and check the use of the scheme for these analyses with two persons, JB and CL.

Description of the Framework

The description of the analysis was formulated by the researcher, after agreement with the supervisors and the linguist consultant, on the type of analytic framework required for the purpose of the thesis. Then the clarity and conciseness of the definitions were discussed until it was agreed that readers outside the checking team would be able to use the descriptive categories with ease and consistency. Then one essay was analysed by CJ and JB using the analytical framework and the codings were checked. Where there were discordances, the definitions were reviewed and revised where necessary. CL also then reviewed the codings of CJ and JB and further clarifications of the framework were made.

First Check for Consistency

Text analysis carried out by CJ on 6 sample essays.

Consistency of coding checked by JB.

Overall consistency = 83%

The resulting agreements and disagreements were carefully examined. This resulted in an increase of agreements of up to 86%.

[Note: From this initial checking, a few revisions necessary to the analytic framework became apparent. After this, all the above codings were revised and a further checking was carried out.]

Second Check for Consistency

The modified codings on the same 6 essays checked by CL.

Agreements and disagreements scrutinised by CL, JB and CJ.

Overall agreement = 82%

Close examination of the remaining 18% overall disagreement revealed the difficulty of interpreting some of the interlanguage in the essays, as happened with the Assessment Criteria. Agreement was reached on 10% of these disagreements leaving 8% to be coded as 'unacceptable' symbolised by the asterisk *.

6.5.3 Checking the consistency of coding the post-task interview data

Two people were involved in checking the analysis of the students' approaches to the ISTs (see Section 6.3): JB and CJ. The data selected were the post-task interview transcript data relating to IST1. This involved

checking the coding for six interviews (see Table 5.4.1a in Chapter 5): two post-task interviews for each of the three students (see Section 5.4.2 for details of the interviews and the attachment to the Appendices for examples of coded transcripts of the interviews).

CJ analysed 6 transcripts.

JB checked CJ's coding.

JB and CJ discussed agreements and disagreements.

The coding was revised by CJ.

Level of agreement reached = 81%

The difficulties with the remaining 19% items were again to do with interpreting the meaning of the students' utterances during the post-task interviews. It was agreed that a satisfactory interpretation of these items was not possible and that therefore they should be excluded from the coding. Thus it was possible to reach full agreement on the coding.

6.6 Critique of the Methods used to design the Course, and to collect and analyse the Data.

Two different critiques can be made of the study:

- about the research aspect.
- about the pedagogical aspect.

6.6.1 The Research Aspect of the Study

Research Design

The major critical design issue for this study is that the researcher is the teacher. I designed and carried out the integrated-skills, task-based course. Thus, as the researcher, I need to be able to set myself apart from the pedagogical aspect and review the issues that arise when the focus is the research. Evidently there is a question of my own subjectivity and thus of bias towards the students and their progress.

Here I consider separately the strengths and weaknesses found with the data collection, the data itself and the data analysis. I shall also mention briefly a few of the positive aspects of these approaches.

The Data Collection

In the data collection, there were two occasions where I could have an influence on the data collection: during the task session and during the post-task interviews.

(a) The task session

Since the integrated-skills tasks were implemented under test-like conditions, my role was minimal in the collection of data at this stage. The students had been informed during the pre-task discussion to IST1 that I would be present; therefore, they had the possibility of becoming used to my being in the room while they worked on the IST, so that, by the time they were doing the other four ISTs they were probably well

accustomed to my presence. In fact, this probably made them feel comfortable since it meant that they could ask for my help if necessary: e.g. to pass over a certain dictionary, to leave the room for a few minutes, or simply to take a short break by relaxing in their seats.

It is possible that the test-like conditions for the integrated-skills tasks were also a benefit for these particular students since they were accustomed to a fairly formal setting in their past schooling environment that was probably similar to the setting within which the ISTs were presented.

(b) The post-task one-to-one interviews

In each interview, my role was pivotal for four reasons:

- Japanese students, through their own education system, are naturally reticent of volunteering any comments and questions. They are very respectful of the teacher's authority and so needed some encouragement to talk freely. (See Appendix A-6.6.1 for further details.)
- The students were receiving feedback on each essay which included some critique of their performance. Therefore, care needed to be taken to give them clear and constructive but realistic ideas about their performance.
- The students were also being asked for their own opinions about their performance. To both have a realistic idea and be able to speak about it honestly and openly with the teacher is not easy to do. Therefore, again they needed substantial encouragement to realise that this type of analytical exercise accompanied by discussion was an active way of learning how to improve their performance.
- The strength of using the interview method for the post-task interviews is that it allowed me as the researcher to adapt my interview schedule, without changing its content, to suit the needs of individual students. This was extremely important because of the normal reticence of Japanese students to speak with a figure of authority, such as myself, who represented the university teacher (Appendix A-6.6.1).

During the pre-post-task interviews I was extremely careful to be sensitive to the needs of the students. At the same time I tried not to influence them in anyway, particularly in the interviews by avoiding asking them leading or directive questions. One of the major criticisms of the interview method is that the interviewer can elicit the data required by formulating questions in such a way that students provide answers that are being sought. Being aware of these issues and of the difficulties the Japanese students might have been experiencing in the interview situation, as already mentioned, I prepared an interview schedule of prepared questions as a framework and a guide when carrying out the interview. The interviews were carried out to encourage them to relax and cooperate in giving their answers to questions in the awareness that this would help their learning.

The Data

The students were using their second language, English, both to write the essays and to speak and discuss during the post-task sessions. Two issues emerged from this. Firstly, the initial level of English for each of the three students studied was very different and this affected their performance in addressing the ISTs. Secondly, because of their different levels, there were problems with communication during the interviews.

This and the ambiguities of their language use are difficulties that had to be taken into account when analysing both sets of data: the written essays and the approaches they adopted to address each IST. However, the richness of the data, which the students were presenting as users of English as a second language, provided a complex and interesting data set to answer the research questions. (As an example, the micro-task data and the coded and checked interviews relating to IST1 for the three students, are contained in a pocket attached to the end of the Appendices.)

The Data Analysis

In general, the level of subjectivity and bias could be reduced where possible by the various sets of frameworks and criteria used to analyse the data and to check the consistency of the coding techniques used. There are a number of comments to be made on the nature of the three frameworks used.

a) The Assessment Criteria

Of the four Assessment Criteria, the three describing language use were sometimes difficult to distinguish from one another in the marking of the essays. This was partly because of the interlanguage that the students were using, which is why there were more problems with the lowest level than the other levels. It was particularly difficult to distinguish between Content and Organisation within Band 1 or Band 2. However, problems could be resolved through discussion, and it was helpful having the Overall Impression criterion as a global criterion. All four criteria were much easier to use at the higher levels.

The criteria were also easy to understand in discussing the IST essays both among the assessors and with the students during the interviews. It was interesting that the description of language use as a combination of Content, Organisation and Language was both efficient and effective at a holistic level and that the Overall Impression mark was found to approximate quite closely the other three marks for each essay.

b) The Text Analysis

At a general level:

- The text analysis is not and cannot be fully comprehensive because language use is so complex that such an analysis would be very complex, if not impossible, to achieve (Halliday 1994), for any single essay. Consequently it has focused only on key features that explain the assessment criteria for language use in more detail.
- The text analysis was being applied to English as a second language. Normally the features used in the textual analysis are used to analyse English in order to discuss language in use, not second language in use.

More specifically:

- The systemic functional text analysis was found useful in some respects and not in others. The most useful items of the analysis were those that provided a multi-stratal picture of the whole essay-text because they could be interconnected: the selection and organisation of hypertheme; simple linear,

constant, split and no thematic progression; the distribution of information within the T-unit; the use of cohesive devices; the linguistic complexity of nominalisation.

- Other items were less useful because the analysis could not examine them deeply enough. Thematic progression taken up in the Rheme (other progression) informed only about thematic continuity but not thematic development. Passive verb forms could only provide superficial information to indicate the use of a scientific type of written discourse. One further item (recurring thematic elements) could not be incorporated in the final synthesis because it too could not be examined deeply enough within the scope of the thesis. This point is discussed further under 'The Text Analysis' within Section 12.3.1.
- Bearing in mind that the systemic functional analysis was being applied to the written use of English as a second language, Fries' notion of the T-unit proved to be an easy and effective way of defining items of analysis.
- Thematic progression proved to be complex because of the often-discussed problem of identifying the Theme (Halliday 1994). In this study, the single Theme rather than the multiple Theme was selected. This point is also discussed further under 'The Text Analysis' within Section 12.3.1.

c) The Analysis of the Students' Approaches

Identifying deep, strategic and surface approaches is not clear-cut because of their invisibility. In other words, the student was talking after the event about something that happened during the writing of the essay and so it is only the student's comments on what they thought they were doing that can guide the researcher in the categorisation used here.

Some aspects of the approaches could be inferred from directly observable behaviour: e.g. the using of dictionaries, the writing of outline plans or drafts for the essays. In these cases the categorisation, particularly of types of strategic approach, is a little easier because there is some evidence available of the extent to which, and the success with which, the advice in the task procedure is being followed.

Summary of the data analytical methods

Checks for the consistency of scoring and coding were carried out for all three frameworks. (See Section 6.5 in this chapter and Appendix A-6.5.) It was observed that using the two frameworks on the analyses of the essays was not straightforward. There always remained a small number of cases which could not be coded because of the ambiguity of the students' interlanguage. However, the exercises of consistency checking were very helpful and the discussion based on these exercises usually managed to sort out many of the ambiguities.

6.6.2 **The Teaching Aspect of the Study**

Concerning the course design, the most useful aspects were the opportunities it gave to encourage mediation of the students' learning: through the task procedure itself, the pre-post-sessions where the students could reflect on their experiences in advance and in retrospect, the periods between each session and the possibility of task repetition. These features were important because they clearly helped the students to develop an

autonomous approach to their learning which is crucially important in Western higher education. This contrasts with the educational tradition in Eastern countries including Japan, where nurturing group harmony is a strong priority (See Appendix A-6.6.1 and Cortazzi 1990, Maynard 1985, Midorikawa 1987, Nishio 1987, Takemoto 1982).

However, the five tasks turned out not to be completely parallel because, although each task had exactly the same format, the content was different which can affect interlanguage performance (Tarone and Yule 1989:123). This could have affected the process of addressing a specific task that was not found in addressing another task and, consequently, the quality of the outcome. This, in turn, would have affected the student profile of progress across the five tasks. For example, it was found that IST3 was a more demanding and complex task than the other four ISTs. This probably influenced the quality of the students' essays and their selection of approach. Since task repetition does have advantages, then there is a need to strive for the tasks to be as parallel as possible in their content features while at the same time retaining different topics that are within the domain knowledge of the students. This point is discussed further under 'Course Design' within Section 11.3.5.

CHAPTER 7

INTRODUCTION TO THE STUDENT PROFILES SHOWING PROGRESS ACROSS THE FIVE ISTS OF THE COURSE

In this chapter, the profiles for the six students are introduced: detailed profiles for three students, and brief profiles for the other three students.

The three detailed profiles are set out in Chapters 8 (for Keiko), 9 (for Masaki) and 10 (for Takako). Appendices for these chapters provide a finer-grained detail of all the analyses for these profiles.

Brief profiles showing the performance and progress of the other three students, Natori, Satomi and Junsei, are not given in the main thesis but are presented in Appendices A-7.1, A-7.2 and A-7.3 respectively. Their essay transcripts, the marks produced by implementing the Assessment Criteria and analytical comments are given.

This chapter explains how the profiles of Keiko, Masaki and Takako are set out in the next three chapters. There are eight main sections in all.

7.1 Introduction

Some information about the student is given: background, general and academic interests, personality features, ability to communicate in English and future plans.

7.2 The student's essays

The task instruction and the transcripts of the five essays written by the student for each Integrated Skill Task are presented. Each essay is identified by the student's initial followed by the task number. For example, K-IST1 means Keiko's essays for Integrated-Skills Task 1. This abbreviation is used throughout the three profiles and thus is distinguished from the task itself, which is referred to as the IST: e.g. IST1 (for Integrated-Skills Task 1). For later reference, each transcript is marked with the following identifications:

the T-unit by ']' at the end

the Theme and Rheme by 'T' and 'R', e.g. 'T1' = the Theme of T-unit 1

each paragraph by 'P': e.g. 'P1' = Paragraph 1

each section by 'S': e.g. 'S1' = Section 1

7.3 Essay length

A table presents the number of words, the number of T-units and the average number of words per T-unit in each of the five essays. This is followed by a short discussion.

7.4 Assessment

The student’s marks according to the assessment criteria are commented on task by task. Then a comparison of the marks across the five tasks is made to show the student’s progress.

7.4.1 The student’s performance on individual ISTs

First the student’s marks for each of the five written essays are presented and then comments follow about what these marks reveal about the student’s performance and progress.

7.4.2 A Comparison of the student’s progress across the five ISTs

First a table is given presenting the assessment marks for the student’s five essays using the following abbreviations for the assessment criteria:

OI = Overall Impression

C = Content

O = Organisation

L = Language

This is followed by a brief discussion of the student’s progress.

Then follows a further table providing qualitative summary comments for each separate mark in each criterion in all five tasks which is followed by a more detailed commentary about the student’s progress in each criterion drawing on references to the essay texts. Quoted examples are identified by T-unit and abbreviated by using ‘...’ throughout the profile.

7.5 Thematic organisation, cohesion and lexicogrammatical features

This section covers the text analysis of the student’s five essays. The three main features for all five essays are presented and discussed in turn. The details for these features in each individual essay are given in the appendices as specified in each profile.

7.5.1 Thematic Organisation

Here three aspects of thematic organisation are covered: Hypertheme, thematic progression and the distribution of information within the T-unit. In each case, a table presents the data analysis for all five essays which is then discussed.

Hypertheme

The table presents: the number of hyperthemes; the list of hyperthemes in order of presentation (identified by (a), (b) (c) etc); the T-units over which it extends and the total number of T-units in that essay.

Then, the use of Hypertheme in each of the five essays in turn is discussed using the abbreviation 'H' for Hypertheme.

Thematic Progression

The table presents the six features of thematic progression used in each of the student's five essays in turn. The six features are identified in abbreviated form as follows:

slp = simple linear progression
cp = constant progression
op = other progression
all p = slp+cp+op combined
sp = split progression
no prog = no progression

For each essay the total number of T-units is given and the total number of possible links between each T-unit, which is one less than the total number of T-units. The total number of each type of progression is given for each essay and, under the column 'SL' (sequence link) the distribution of progression. For example, '1' = one link in sequence; '4' = four links in sequence. In the row 'sp', '1(1+1)' = a split progression unit with two separate parts; '1(2+2)' = a split progression unit with two separate parts, each containing two sub-parts. The symbol '-' = irrelevant.

Then the use of each feature of thematic progression is discussed in turn across the five essays to show the extent and progress in thematic development and other thematic continuity.

The distribution of information in the T-unit

The table presents the distribution and acceptability of information in the Theme and Rheme for each essay. Alongside the label for each essay is given the total number of T-units in that essay so that the analysed data can be understood in relation to the overall essay. The following abbreviations are used:

NI-Th = New Information in the Theme
NI-Rh = New Information in the Rheme
E-Th = Empty Theme
E-Rh = Empty Rheme
/ = acceptable
x = unacceptable

Then the table is discussed in terms of the student's progress.

7.5.2 Cohesion

The table presents three key cohesive features in relation to the total number of T-units for each of the five essays. They are:

- circumstantial adjuncts (CA)
 - conjunctives and other adjuncts (C)
 - anaphoric references (AR)
- Acceptability is also indicated by / and x.

Then each feature shown in the table is discussed in terms of the student's performance in each essay and of progress across the five essays.

7.5.3 Lexicogrammatical features

The table presents two lexicogrammatical features in relation to the total number of T-units for each of the five essays. They are:

- nominalisation, which is subdivided into simple (SNom) and complex (CNom).
 - passive verb forms (PV).
- Acceptability is also indicated by / and x.

Then each feature shown in the table is discussed in terms of the student's performance in each essay and of progress across the five essays.

7.5.4 Summary of the student's progress and change in the five essays

A summary of evidence of progress across the essays is given. A list of the features drawn from the detailed text analysis is given in terms of their relation to the three criteria representing language use: Content, Organisation and Language.

7.6 The student's progress and change in terms of approach to the five ISTs

The student's progress is examined through an analysis of the student's comments made in the post-task interviews and the student's micro-task notes. (See the attachment to the Appendices for examples of coded transcripts of interviews and for examples of microtask notes.) There are two sections, the first discussing the approaches that were adopted in each IST including a comparison across the ISTs with some hypothetical references made to the text analysis. The second section is a very tentative discussion where possible links are suggested between the two analyses of the essays as outcome, i.e. the marks and the text analysis, and the approaches adopted in the process. These links are all made with care since this part of the analysis is limited in scope. Further details about the approaches adopted in each IST are presented in the relevant appendices, as indicated in each separate profile.

In this and the remaining sections, the quotes taken from the student utterances in interviews, including hesitations such as the repetition of words or expressions such as 'er' or 'ano' (a typical Japanese hesitation) are given word for word unless the hesitations are too long to be useful. Very long hesitations are denoted as '//' and shorter ones as '/'. Other omissions are denoted as '...'.

7.6.1 The student's progress in each IST

Each IST is discussed in turn. First the marks according to the four assessment criteria are given. Then follows a discussion about the student's approach to each IST, drawing on the analysed data with tentative comments that might be considered by suggesting possible links between the approaches adopted and the essay as product drawing on the marks and the text analysis.

7.6.2 A Comparison of the approaches adopted by the student across the five ISTs

First a summary of the approaches used by the student in every IST is presented in three separate tables: (i) for the deep approaches adopted, (ii) for the strategic approaches adopted, (iii) for the surface approaches adopted. Then these three tables are briefly discussed. A fourth table (iv) provides a more detailed description of the approaches adopted by the student. This is also followed by a discussion of the student's approaches across the five tasks drawing on the analysed data.

In these four tables, two types of abbreviations are used which are derived from Table 6.3.1 in Chapter 6: those referring to the sub-categories of the three main approaches and those referring to the approaches adopted in the context of the ISTs which are indicated by letter (a), (b) etc. The former abbreviations are listed below:

Deep approach

- hol = holistic
- ref = reflective

Strategic approach

- analy = analytical
- sk-or = skills-oriented
- self-r = self-regulatory
- con-ris = controlled risk-taking
- sel = selective processing
- comp = compensatory
- cop = coping

Surface approach

- ato-pri = atomistic prioritising
- ato-qf = atomistic quick-fixing
- unc-ris = uncontrolled risk-taking

7.7 Conclusions

Conclusions about the student's progress in addressing the ISTs are made. They are discussed firstly according to the three assessment criteria describing language use: Content, Organisation, Language, and finally according to the global criterion, Overall Impression.

In each case, first the marks for that assessment criterion are presented. Then the three aspects of progress are examined for how the marks and the text analysis of the essay as outcome might tentatively be linked to the process of doing the ISTs through considering the approaches adopted.

7.8 Closing Comments

In this final section, the discussion in the previous section is brought together to consider the student's progress as a whole in terms of how far predictions can be made about the student's ability in using English as a second language might facilitate future academic success at undergraduate level in an English-medium university.

CHAPTER 8

THE PROFILE OF KEIKO'S PROGRESS ACROSS THE FIVE IISTS OF THE COURSE

8.1 Introduction

Keiko was 19 years' old when she took part in the one-year pre-university programme. Her science grades were promising and her English was at the level of 6 on the IELTS score. She had been educated in Japan and spent six months in the USA in her early teens. Her family fully supported her desire to pursue her post-school studies in Britain. She had a clear, long-term goal, which was to become involved in international environmental concerns and her main academic interest was Biology.

Keiko spoke English quite fluently with a slight American accent, was friendly, rather shy and sensitive. She spoke only when she had something important to say. She was conscientious, highly self-critical and very absorbed in her studies.

She took advantage of all opportunities available to her to improve her English, making English friends through developing interests in her environment. She put her friends first if they needed her. During the third and final term she suffered from having noisy neighbours. For these reasons she was sometimes absent from classes.

8.2 Keiko's essays

Starting on the next page are the transcripts of the five essays that Keiko wrote for the Integrated Skill Tasks.

K-IST1

Discuss the advantages and disadvantages of the wind turbine as a means of supplying energy in the future. Compare it with other means of supplying energy.

P1	(T1)The sources of energy (R1)are considered today, because humans realized that burning fuels causes air pollution and also that the fossil fuels will run out in not far future. (T2)New source of energy which is cheap, abundant, clean, and safe (R2)is required. (T3)As Britain is a very windy place, (R3)wind is considered as an important source of energy. (T4)There (R4)are advantages and disadvantages of using wind turbines as well as other means of supplying energy, which people are trying to improve.
P2	(T5)Wind power (R5)was already used in the 12th century at windmills for grinding corn into flour. (T6)Then earlier this century (R6)farmers used wind-powered water pumps. (T7)Once people forgot the importance of the wind power, (R7)they began to find out again. (T8)The horizontal axis turbins (R8)need to be pointed into the wind, (T9)but modern vertical axis turbines (R9)can turn by the wind from any direction. (4 diagrams: 1 - windmill, 2 - horizontal axis turbines, 1 - vertical axis turbine)
P3	(10)There (R10)are lots of advantages of the wind turbine. (T11)For example, wind (R11) is free (T12)so once people had the turbine, (R12)they can sell surplus electricity on windy days. (T13)The turbine (R13)does not require any fuel, (T14)no pollution (R14)is caused by it. (T15)The cost of the electricity produced by a wind turbine (R15)is about same as that produced by using fossil fuels, (T16)and it (R16)is about half of that produced in a nuclear power plant. (T17)In addition the land around the wind turbine (R17)can be used. Not only for agriculture, but also for people to live.
P4	(T18)On the other hand, there (R18)are disadvantages of wind turbines, (T19)such as (R19)it costs a lot to buy one and also to maintain. (T20)Owners (R20)need back-up when it is not windy. (T21)Also some people (R21)claims that they would spoil the views, (T22)but they (R22)have to be placed on the proper sites to be used effectively.
P5	(T23)Electricity (R23)is generated by lots of other means, such as using steam, using nuclear power and water fall. (diagram) (T24)Steam (R24)is produced with burning fuels so the electricity can be generated constantly. (T25)However, it (R25)may cause air pollution. (T26)Also only 1/3 of energy (R26)is able to be converted to electricity. (T27)The nuclear power (R27)seemed to be perfect source of energy, (T28)but the radioactivity (R28)comes out from the plant (T29)and waste product (R29)is very harmful for living things.
P6	(T30)There (R30)are lots of source of energy which does not require fuels, such as wave power and solar thermal power. (T31)It (R31)is important to find a good combination of the source.

K-IST2

With reference to the video documentary 'Chemists at Work' and the text 'Water', describe the causes and effects of water pollution. Discuss how the chemist can help to improve the situation.

P1	(T1)Water (R1)is essential for a human being to survive (T2)and also it (R2)is important for a convenient life. (T3)The necessity of water (R3)is the reason why the communal water supplies were organized already in the ancient Greeks. (T4)The Romans (R4)had splendid underground water supply, sewer and drainage systems. (T5)Thinking about the importance of water, (R5)it is incredible, (T6)but the systems (R6)fell into disuse until the 19th century when Europeans started to use communal toilets. (T7)In 19th century, (R7)lots of disease were still caused by the bacteria in drinking water. (T8)The introduction of water filter, the provement of that there is a link between cholera outbreaks and a public well polluted by privy vaults nearby, and using chlorine to disinfect the water supply (R8)improved the safeness and quality of the water supplied.
P2	(T9)Nowadays, (R9)water is polluted by domestic use factories, and agricultural use. (T10)Chemists in laboratories (R10)examine the samples of water from different sources. (T11)They (R11)use lots of modern machines to test for metals which are toxic and the amount of oxygen contained in water. (T12)Not only the chemical properties, but the test for taste (R12)is also done. (T13)They also (R13)work to treat water for drinking and to clean the polluted water before releasing into river or ocean.
P3	(14)With dealing the data, (R14)they can know what is causing the water pollution and how the pollution affects on the environment. (T15)So that to prevent the pollution to expand and to improve the environment, (R15)the treatment should be done from the very beginning of the pollution. (T16)Not only the scientific and tegunical improvement, but also the aid from government and each citizen (R16)are really required.

K-IST3

Concerning the use of satellites in space, why is the concept of thrust important to mankind? Discuss this with reference to the progress made between 1980 and 1991 using the video documentary 'Newton and the Shuttle' (1983) and the text 'Eye in the Sky' (1991).

P1	(T1)The concept of thrust (R1)is important for the work in space. (T2)To explain the reason for it, (R2)I would like to write the importance of satellites first.
P2	(T3)To continue the convenient life and protect the earth environment, (R3)satellites are essential these days. (T4)They (R4)are used for forecasting the weather, for sending telephone calls through them, for large scale measurements, and for remote-sensing. (T5)It (R5)is the science of observing the earth from space. (T6)By means of radiometer, (R6)multicoloured images of surface is send to the earth. (T7)They (R7)are used to assess the health of plants and to forecast the effects of prolonged period of limited rainfall in remote areas. (T8)There (R8)are lots of things which is better to be observed from outside the earth, by satellites. (T9)For example, the global changes, including ozone holes and the amount of ice at the two poles, (R9)can only be observed by satellites. (T10)It (R10)is obvious that these information is important for our lives today and in future. So that satellites are necessary.
P3	(T11)When an accident happens in satellite, (R11)an astronaut must be sent to repair it or bring it back to the earth. (T12)To move closer to the satellite (R12)the idea of thrust is used. (T13)When engine is fired, (R13)the space shuttle moves opposite. (T14)It (R14)is useful (four diagrams) when it is required to stop at certain point. (T15)It (R15)is also applied to the chair which an astronaut sits and drives in the space, and to the satellite. (diagrams)
P4	(T16)The satellite (R16)is rotating quickly (T17)and to do the work, (R17)it needs to be stopped. So that thrust is used again to stop the rotation. (T18)Satellites (R18)are very important for our lives today. (T19)And at the work to keep them in good conditions, (R19)the concept of thrust is used. (T20)This (R20)means that thrust is very important for us as well as having satellites.

K-IST4

Describe Darwin's theory of evolution. Discuss how it has contributed to further knowledge and change.

P1	(T1)Charles Darwin (R1)published On the Origin of Species in 1859. (T2)He (R2)introduced his theory of evolution, which proposed that species are capable of changing in their characteristics and different species arise by the prosses of natural selection. (T3)His theory (R3)is based on his journey around the world, especially the Galapagos islands, and on observing many animals. (T4)Then one question (R4)came up, "Why there are so many species?" (T5)to answer this, (R5)he established his theory.
P2	(T6)The examples which support his theory (R6)can easily be seen anywhere, such as legs of a mole, an insect, a deer, a bird, and fins of a fish. (T7)They (R7)are all different, but are convenient for their lives or in their surroundings. (T8)It (R8)is said that the life started from the atmosphere which contained more methane, ammonia and water and with the charge from lightening, nucleic acids and proteins were made. T(T9)his (R9)is already ensured by experiments (T10)and those acids and proteins (R10)must be used to produce first life in forms of bacteria. (T11)The evolution process through bacteria, protozoa, fish, amphibian, reptile, to bird or to mammal (R11)is broadly believed these days. (T12)Those evolution process (R12)took place due to the natural selection. (T13)According to Darwin's theory, (R13)the populations which had best adapted form of life to their environment are only allowed to survive and reproduce in the greatest numbers and longer generations. (T14)Not only the adaptability to their environment (R14)is important, (T15)but also there (R15)are selective pressure. (T16)For example rabbits (R16)live under the pressure of beeing eaten by fox or cats. (T17)Furthermore, desease (R17)cause serious damage to the community. (T18)But if some could fight against that desease and could obtain the immunity, (R18)the strong rabbits start to enlarge their community.
P3	(T19)The theory (R19)is used in breeding, to obtain the suitable characteristics of guid dog. (T20)It (R20)is called artificial selection. (T21)The cross-breeding (R21)causes extreme changes. (T22)Sometimes, (R22)it is possible to breed closely related species together, such as a horse crossed with an ass to produce a mule. (T23)But fortunately, (R23)mules cannot reproduce.
P4	(T24)Darwin's significant theory (T24)has been accepted by almost all scientists and been modified to emerge as Neo-Darwinism. (T25)This theory (R25)is interesting, (T26)but the change made by human based on this theory and genetic study(R26) might be dangerous. (T27)Human beings (R27)are only one kind of factors of the earth.

K-IST5

Show how the discovery of the gene has led to important developments in science.

P1	(T1)Discovery of gene (R1)enabled us to know how characteristics are transmitted from parent to off-spring. (T2)The interesting discovery (R2)led scientists to analyse it further and also apply it to usage. (2 diagrams)
P2	(T3)A set of DNA, which included the code for start and stop to read, (R3)forms one unit of gene. (T4)A gene (T4)is stored in part of a chromosome (T5)and it (R5)is packed in a nucleus of a cell. (T6)Every information which is required to form a organism and to continue the life (R6)is stored in pairs of chromosomes.
P3	(T7)The information (R7)is transmitted when reproductive cells of male and female join and produce the offspring. (T8)Reproductive cells (R8)have threads of chromosomes, (T9)but they (R9)are not in pairs. (T10)Therefore an offspring (R10)have both characteristics of parents. (diagram: (nucleus of) reproductive cell / fertelised cell)
P4	(T11)There (R11)are two kinds of genes. (T12)One (R12)is the dominant which produces a particular characteristic in an organe. (T13)And the other (R13)is the recessive gene whose characterisic only appears if the other gene has the same characteristic. (diagram)
P5	(T14)Even though it is usually more complicated, (R14))the principle remains the same. (T15)Therefore, this (R15)is used to design plants to a form which customers will preffer or which farmers can grow them easily.
P6	(T16)The same idea (R16)is used in the medical field. (T17)It (R17)is used to reduce the birth rate of the baby having inherited disease. (T18)Although parents look perfectly healthy, (R18)they might be carring the recessive gene of a disease. (T19)If they take the examination to check whether they are the carrier or not, (R19)they can prevent their baby to have the inherited disease. As a baby can be tested even at the eighth week of the pregnancy.
P7	(T20)Other way of applying the knowledge of the gene (R20)is the genetic engineering. (T21)It (R21)involves in altering genes. (T22)A gene (R22)is taken from an organism and placed in a becterium. (T23)As bacteria reproduce rapidly, (R23)large quantity of product are made by following the information from transformed gene. (T24)Nowadays it (R24)is used industrially to produce enzymes and hormones, such as insulin. (T25)This skill (R25)is also applied to the medical treatment for inherited diseases. (T26)It (R26)is not yet perfect, (T27)but it (R27)is improving very rapidly.
P8	(T28)As long as scientists could be away from producing monsters or using the most private information to any unacceptable use, (R28)the study of genes and the applicaton of it will bring us a new world.

8.3 Essay length

Table 8.3K-ISTs: The number of words and the number of T-units in each K-IST

	No. of words	No. of T-units	Av. no. of words per T-unit
K-IST1	415	31	13.39
K-IST2	272	16	17.00
K-IST3	309	20	15.50
K-IST4	385	27	14.26
K-IST5	395	28	14.11

Table 8.3K-ISTs shows that K-IST1, K-IST4 and K-IST5 are considerably longer than K-IST2 and K-IST3 which could mean that they provide more information. The average number of words per T-unit is higher in K-IST2 than in the other K-ISTs. In the final two K-ISTs the average number of words per T-unit is almost the same but lower than in the previous two KISTs; however, the total number of T-units in the last two ISTs is greater than in K-IST2 and K-IST3: just over 14 words per T-unit. Further analysis to follow will help understand the information in this table.

8.4 Assessment

In this section Keiko’s marks according to the assessment criteria are commented on task by task. Then a comparison of the marks across the five tasks is made to show her progress.

8.4.1 Keiko’s performance on individual ISTs

K-IST1

OI	C	O	L
3.50	3.50	3.50	4.00

Keiko’s first essay indicates that her level is promising in terms of her ability to use her English to achieve academic success. It is presented in the standard essay format, is quite substantial and addresses the whole task instruction in direct and indirect ways. Her mark for Content is 3.50, which is quite favourable but suggests there is room for improvement. This is partly because the section dealing with the advantages and disadvantages of the wind turbine is more comprehensive than the section comparing it with other means of supplying energy, which is rather thin. Also P1 is not directly relevant to the instruction until the last sentence.

Her mark for Organisation is also 3.50. The introduction is long. It occupies both P1 and P2. Then, the essay is organised in the way suggested by the instruction. But there are weaknesses: e.g. the delay in addressing the task instruction, a lack of cohesion in P2 (see ‘Once...direction’ T-units 7,8,9), where there is a sudden shift from focusing on wind power to describing wind turbines, and an inconclusive ending.

Keiko’s mark for Language, 4.00, indicates that she should not have serious problems conveying her intended meaning. The register is quite formal throughout. There are a few more informal uses as in ‘lots of’(R10 and R19) and in ‘people forgot...began to find out’ (T-unit 7). Generally, a strong sense of sentence structure is evident. Mistakes, mainly in using the article and prepositions, do not generally interfere with the meaning: neither do the few instances of inaccurate punctuation.

K-IST2

OI	C	O	L
3.25	3.25	3.00	3.00

Keiko’s essay for this second task is distinctly weaker than her first essay. The Content mark is 3.25, which is lower than in K-IST1, because, although the essay contains a great deal of relevant information and provides a broad coverage of the issues, it is quite short and the content is not always well focused.

The Organisation mark is 3.00, which is also lower than in K-IST1 because the introduction, which occupies the whole of P1, the longest paragraph, sets the scene clearly but the importance of water is stated three times unnecessarily. Also, the essay ends rather abruptly on an irrelevant note.

In Language Keiko’s mark, 3.00, is one whole band lower than in IST1 because there are some problems with general coherence. Her commendable attempts to produce complex structures are not all entirely successful. One complex and lengthy nominal group (T8) comprises three successive shorter nominal groups with their own embedded nominal groups, the most complex being the second: ‘the provement ...nearby’. Such a cluster of nominal groups means that it is difficult for the reader to process all the new information, set aside from inaccuracies at lexico-grammar level. However, the general

structure is acceptable. Keiko also creates special emphasis by beginning two sentences with 'Not only...' (T12 and T16). There is no inversion and the passive verb is positioned weakly at the end both times but the meaning is clear. The register is appropriately formal apart from a few lapses into interpersonal mood: e.g. 'it is incredible, but' (R5,T6) and 'lots of'(R7).

K-IST3

OI	C	O	L
3.00	2.50	3.00	3.00

This third essay is slightly weaker than K-IST2. The Content mark is only 2.5, a whole band lower than in K-IST2, because it is thin. After P1, which presents a short, clear introduction, the concept of ‘thrust’ is neither foregrounded nor defined. Nothing is mentioned about progress and in the two sets of diagrams, one is unlabelled and the other is unclear and incorrect.

The mark for Organisation is the same as for K-IST2. Generally the essay structure is ill-balanced. The information input has not been well-synthesized reflecting a partial lack of comprehension. Both the introduction and the conclusion are brief and unconvincing, the latter mainly reinforcing the point made at the beginning.

There is an improvement in Language. But the mark, 3.50, is still lower than for K-IST1. The register is mostly appropriate apart from a slight deviance again into more informality with:‘I would like’(R2). The range of expression is limited in parts, particularly in P.3, where there are problems with lexical cohesion, resulting in a lack of coherence: e.g. ‘accident’ meaning ‘fault’(T11); ‘sits and drives’ meaning ‘drives’(T15). Sometimes ellipsis is taken too far: e.g. ‘the space shuttle moves opposite’(R13). Occasional inaccuracies with punctuation do not affect coherence. Three uses of ‘it’ close together in T14,R14,T15, first as anticipatory subject, then twice for referencing, are confusing. Minor mistakes occur in subject/verb concord, verb forms, plurals and articles.

K-IST4

OI	C	O	L
4.00	3.50	3.75	4.25

In general, this essay is much better than K-IST2 and K-IST3, particularly in Content, which is one whole band higher at 3.50. It is all relevant, though in some parts there is too much detail and in others too little. The scene-setting introductory paragraph is enjoyable to read. However, in P4 ‘Neo-Darwinism’ and ‘genetic study’ are vaguely presented. The significance of ‘only...factors’(R27) is unclear. The statement ‘fortunately... reproduce’(T23) is left unexplained.

The mark for Organisation is also much better than in K-IST3 at almost a whole band higher at 3.75. There are clear links between most points and a solid introduction; though the conclusion is weak.

In Language Keiko has gained her highest mark of all, 4.25, showing a clear improvement on the previous ISTs, particularly in fluency, style and register. The register is appropriately formal throughout apart from one small lapse: ‘Then...up’(T-unit 4). Ideas are expressed using a wide range of complex nominal, adverbial and verbal constructions successfully. Minor mistakes occur occasionally e.g. in spelling, use of articles, countable and uncountable nouns, subject/verb concord, prepositions and punctuation.

K-IST5	OI	C	O	L
	4.00	4.00	4.00	4.00

Keiko’s marks for her final essay are all in Band 4, thus indicating that her language use should help her achieve academic success. The essay is well-balanced since the marks are the same in all four assessment criteria. 4.00 for Content is due to satisfactory coverage of the task instruction with some development of the main points. 4.00 for Organisation indicates a sound understanding of the topic. The essay is clearly and appropriately organised, including the introduction and conclusion. However the information might be better distributed in a smaller number of longer paragraphs.

4.00 for Language reflects coherence almost all through and the register is always appropriate, including when a technical genre is used. Throughout there is a clear attempt to present complex information concisely. Excellent use is made of a range of structures using embedding, hypotaxis and parataxis. Generally, they are not too complex although some contain minor inaccuracies: e.g. ‘Although...healthy’ (T18), ‘the birth...disease.’(R17) and ‘Other...gene’(T20). One exception is the final circumstantial agent: ‘As... unacceptable use’(T28), which is particularly complex and long, and barely acceptable due to inappropriate lexical choices although it is structurally accurate. Minor problems persist with grammatical patterns, as in ‘which farmers can grow them’(R15), where an anaphoric reference is mistakenly used, and with spelling, tense choice, verb forms, articles and prepositions. There are no problems with punctuation.

8.4.2 Comparison of Keiko’s progress across the five ISTs

Table 8.4.2K-ISTs(a) The assessment marks for Keiko’s five essays

	K-IST1	K-IST2	K-IST3	K-IST4	K-IST5
OI	3.50	3.25	3.00	4.00	4.00
C	3.50	3.25	2.50	3.50	4.00
O	3.50	3.00	3.00	3.75	4.00
L	4.00	3.00	3.50	4.25	4.00

Table 8.4.2K-ISTs(a) shows that Keiko has made some progress in three of the assessment criteria. There is a shift from Band 3 in K-IST1, where ‘Language use may facilitate academic success at undergraduate level’ to Band 4 in K-IST5, where ‘Language use will facilitate academic success at undergraduate level’. Her marks show that:

- the difference in her Overall Impression marks between IST1 and IST5 is only 0.50,
- her marks for K-IST4 and K-IST5 are all higher than those for K-IST2 and K-IST3,
- the range of her marks for each criterion across the five essays is between 3.00 and 4.00 or 4.25 except for Content where it is 2.50-4.00 due to difficulties with Content in K-IST3,
- the range of her marks for the five ISTs is variable (0.50; 0.25; 1.00; 0.75; 0.00 respectively). In K-IST5 the marks converge at 4.00, showing an integration of Content, Organisation and Language.

Table 8.4.2K-ISTs(b): The assessment criteria and summary comments for Keiko's ISTs

K-IST	AS	Mark	Summarised comments
1	OI	3.50	addresses all parts of instruction; fairly substantial; mostly intelligible
	C	3.50	fairly comprehensive coverage; mostly relevant; fluctuates in detail
	O	3.50	fairly clearly defined paragraphs; some problems with linking points
	L	4.00	mostly appropriate discourse; wide range of structures; many minor inaccuracies
2	OI	3.25	clear attempt to address instruction; problems with organisation; fairly substantial; mostly intelligible
	C	3.25	adequate coverage; partly relevant; brief with supporting details
	O	3.00	overall structure not entirely clear; discursive beginning; weak conclusion
	L	3.00	mostly appropriate but dense in parts; wide range of linguistic devices; complex structures; minor mistakes with vocabulary
3	OI	3.00	partly addresses the instruction; fluctuations in detail; ill-balanced organisation; mostly intelligible
	C	2.50	mostly relevant; some parts vague; some misinformation; poor use of diagrams
	O	3.00	overall framework evident; paragraphs not very clearly defined; weak conclusion
	L	3.50	mostly appropriate discourse; limited range of vocabulary; cohesive devices well-used
4	OI	4.00	addressing the whole instruction; substantial; descriptive; fairly clearly organised; mostly intelligible
	C	3.50	fairly comprehensive in parts; mostly relevant; interesting with some details
	O	3.75	fairly well organised; some well-ordered but some weak linking of points
	L	4.25	Discourse almost all appropriate; mainly descriptive genre; some compressed information; wide range of structures; many minor mistakes
5	OI	4.00	addressing all parts of instruction; substantial; well organised; mostly intelligible
	C	4.00	all relevant; comprehensive; main points supported by detailed examples and helpful diagrams
	O	4.00	well ordered main points; appropriate introduction and conclusion; problems with distinguishing main and subordinate points
	L	4.00	mostly appropriate discourse; fairly wide range of vocabulary and structure

Table 8.4.2K-ISTs(b) shows qualitatively the manner in which Keiko makes progress. In Overall Impression, progress is evident mainly in substance and overall organisation. K-IST1, where 3.50 is a favourable mark for the first essay, is fairly substantial. But K-IST4 and K-IST5 are entirely substantial. K-IST5 is also well-organised. This is a clear contrast with K-IST3, the weakest essay, where the mark is only 3.00, a whole band lower than for the last two K-ISTs, because the instruction is only partly addressed and the organisation is ill-balanced.

In Content, there are fluctuations in level. K-IST2, the shortest essay, has a lower mark than K-IST1 because relevance is a problem, and coverage, although adequate, is not comprehensive. K-IST3 has the lowest mark of all, 2.50, which is due to some misinformation and a lack of detail. In K-IST4 there is dramatic improvement; the content is more comprehensive and almost all relevant. In K-IST5, for the first time, all the content is relevant and comprehensive, and the treatment of supporting detail is better here than in all the other essays. This shows that Keiko has made progress in these three areas of the Content criterion.

The mark for Organisation across the five K-ISTs also fluctuates, mainly because the distribution of information varies in quality. It is weakest in K-IST2 and K-IST3, which have the longest T-units on average. In K-IST2 there are two related problems. Firstly, the introductory paragraph is very long and the task instruction is not directly addressed until the second paragraph. Secondly, it contains the longest T-unit of all, T-unit 8:

The introduction of water filter, the provement of that there is a link between cholera outbreaks and a public well polluted by privy vaults nearby, and using chlorine to disinfect

the water supply improved the safeness and quality of the water supplied.

T-unit 8 presents a great deal of information all at once which is difficult for the reader to absorb.

Throughout K-IST3 neither the distribution of information in paragraphs nor the links between components of information are clear. In K-IST4 there is much improvement, the essay being well-structured despite the linking of some points being weak. In K-IST5 there is further improvement with overall cohesion being achieved through the clear ordering of main points supported by an appropriate introduction.

In Language, her marks are generally her highest because, on the whole, despite minor inaccuracies, Keiko expresses her ideas clearly using a wide range of complex structures. Her weakest language performance is in K-IST2 partly due to the excessive linguistic complexity of some T-units, e.g. T-unit 8 as described above. In K-IST3 there is an improvement in this respect; but here Keiko uses a limited range of vocabulary which causes problems with fluency. In the last three K-ISTs the discourse is more appropriate than before. The range of structures is particularly wide in K-IST4, where the mark, 4.25, is Keiko's highest mark of all.

8.5 Thematic organisation, cohesion and lexicogrammatical features

The details for these features in each individual essay are given in Appendix A-8.(1-5).

8.5.1 Thematic Organisation

Hypertheme

Table 8.5.1K-ISTs(a): Hypertheme in Keiko's essays

K-IST	No.	Hypertheme	T-units	Total no. of T-units
1	5	(a) The need for a new source of energy (b) The wind as a source of energy (c) The advantages of wind turbines (d) The disadvantages of wind turbines (e) Other means of generating electricity	1-3 4-9 10-17 18-22 23-29	31
2	3	(a) The importance of water (b) The importance of water systems (c) The chemists' work on water pollution	1-3 4-8 10-15	16
3	3	(a) The importance of satellites (b) Repairing a satellite (c) The importance of satellites today	3-10 11-17 18-20	20
4	5	(a) Darwin's theory of evolution (b) Examples supporting the theory (c) Natural selection (d) The application of the theory (e) Neo-Darwinism	2-5 6-11 12-18 19-23 24-27	27
5	4	(a) Genetic knowledge (b) The application of genetic knowledge (c) Genetic engineering (d) The application of genetic engineering	3-13 15-19 20-23 24-27	28

Table 8.5.1K-ISTs(a) shows that Keiko makes use of hyperthemes throughout all her essays. They all relate to the task instruction but some are more directly relevant than others.

In K-IST1 H(a) leads into a short introduction about the need for a new source of energy. Then

H(b) leads into a longer section introducing wind as a source of energy. This part covers almost a third of the total number of T-units. Then H(c,d) address the first part of the task instruction: the advantages (c) and disadvantages (d) of the wind turbine. Finally, H(e) leads into the last part that addresses the other part of the instruction: discussing other ways of supplying energy. The final two T-units conclude the essay.

In K-IST2, H(a,b) lead into a long introduction that deals only indirectly with the first part of the instruction, 'causes and effects of water pollution'. H(c) leads into a section that addresses the second part of the instruction and includes some detail. The final T-unit concludes the essay. Hence the instruction is only partly directly addressed which explains why the Content and Organisation marks are lower than for K-IST1.

In K-IST3, the first two T-units provide an introduction. The three hyperthemes which follow relate to the instruction but are not extended to provide full coverage and detailed information is sporadic. The relevance of H(a), introducing the importance of satellites, does not become clear until H(b), which introduces a section about repairing a satellite, thus mentioning 'thrust'. Then H(c) reiterates the importance of satellites, leading into a very brief general conclusion. These factors could explain why there is no improvement in Organisation and why the Content mark is much lower than for K-IST2.

In K-IST4 the hyperthematic organisation is much better. After the first T-unit, which provides an introduction to the topic, H(a) introduces a description of the theory, thus directly addressing the first part of the task instruction. Then H(b) introduces examples of the theory, with further elaboration. H(c) follows smoothly, leading into even further detail with an account of natural selection, which is central to the theory. Thus, 17 T-units are given to addressing the first part of the instruction. H(d,e) introduce artificial selection and Neo-Darwinism respectively, thus directly addressing the second part of the instruction. These parts are much shorter, occupying only 9 T-units in all. In summary, as well as being relevant, the five hyperthemes are each linked, from one to the other, clearly and logically. This would account for the improvement in K-IST4 over K-IST3 in Content and Organisation.

In K-IST5, the first two T-units provide a general introduction to the essay. Then H(a) introduces the topic of genetics, which is described in some detail over 11 T-units. Then, after a single T-unit acting as a bridge, H(b) follows logically by introducing a section about the application of genetics. H(c) moves on to introduce further developments in the study of genetics, viz. genetic engineering, which is taken further through H(d). The final two T-units give a short conclusion to the essay. As in K-IST4, all four hyperthemes are directly relevant, the links providing a means for clear and logical development of the essay. In addition they combine to produce a balanced coverage of the content. Both the marks for Content and Organisation reflect this improvement.

Thematic Progression

Table 8.5.1K-ISTs(b) below shows that all types of thematic progression are evident in all K-ISTs apart from split progression, of which there are only two occurrences, one in K-IST1 and the other in K-IST5. The number of isolated T-units is also very low.

There is a general improvement in simple linear progression in relation to the number of T-units with the first two being within a lower range than the later three: (1: 23%; 2: 27%; 3: 42%; 4: 38%; 5: 41%).

K-IST4 and K-IST5 both contain one fairly long simple linear sequence (3 links and 4 links respectively), thus indicating a better development of the content.

The ratio of constant to simple linear progression is 1:1 in K-IST1 so that repetition of the Theme is as frequent as thematic development. From K-IST2 onwards constant progression is always less frequent than simple linear progression in the following ratios: 1:2, 1:8, 7:10, 7:11. In K-IST2 both types of progression feature very little which could partly explain why the Content mark is lower than for K-IST1. In K-IST3 there is only one occurrence of constant progression. Thus thematic development, through simple linear progression, plays a much more important role than repetition of the Theme, possibly explaining the higher marks for Content in the last two ISTs.

Table 8.5.1K-ISTs(b):Thematic progression

K-IST	1 31 T-units (30 links)	2 16 T-units (15 links)	3 20 T-units (19 links)	4 27 T-units (26 links)	5 28 T-units (27 links)
Type	No SL	No SL	No SL	No SL	No SL
slp	7 2,1,1,1,1,1	4 1,1,2	8 1,1,2,1,1,1,1	10 1,3,1,1,1,2,1	11 1,2,1,1,1,4,1
cp	7 1,1,1,1,2,1	2 1,1	1 1	7 1,1,1,1,3	7 1,1,1,2,1,1
op	6 1,1,1,1,1,1	6 1,1,3,1	7 1,1,2,1,1,1	2 2	7 2,2,3
all p	19 3,2,1,1,4,1, 1,3,2,1	11 1,1,6,3	13 3,2,4,1,2,1	18 2,3,2,1,1,3,2,1,3	21 4,3,2,5,7
sp	1 1(3+3)	0 -	0 -	0 -	1 1(1+1)
no p	2 1,1	1 1	1 1	0 -	2 1,1

Table 8.5.1K-ISTs(b) also shows that, in all the essays, some thematic progression is taken up in the Rheme (op) which reinforces thematic continuity. The use of 'all progression combined' (all p) in relation to the number of T-units increases across the K-ISTs, from 63% in K-IST1 to 78% in K-IST5 showing stronger thematic continuity in K-IST5 than in the other K-ISTs. In K-IST5, there are only five groups of consecutive T-units in thematic sequence of 'all progression combined', each group showing links of three or more T-units. K-IST5 also has the highest marks for Content and Organisation which reflect this close thematic linking.

Two further contributions to the Organisation marks across Keiko's five essays are: the split progression that features in K-IST1 and K-IST5, and the infrequent uses of isolated T-units which never occur more than one at a time.

The distribution of information in the T-unit

Table 8.5.1K-ISTs(c): distribution and acceptability of information in the Theme and Rheme

	K-IST1 (31)			K-IST2 (16)			K-IST3 (20)			K-IST4 (27)			K-IST5 (28)		
Item	Total	/	x	Total	/	x	Total	/	x	Total	/	x	Total	/	x
NI-Th	8	6	2	5	4	1	7	7	0	7	7	0	3	2	1
NI-Rh	28	27	1	13	13	0	15	13	2	26	23	3	27	24	3
E-Th	8	8	0	0	0	0	3	2	1	2	2	0	1	1	0
E-Rh	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0

Table 8.5.1K-ISTs(c) shows that the number of times new information occurs in the Theme in relation to the number of T-units is particularly high in K-IST2 and K-IST3 (31% and 39% respectively) which could indicate a lack of development of the content and account for the lower Content and Organisation

marks. In contrast, it is much lower in K-IST5 than in all the other K-ISTs: only 11%, which could explain the improvement in thematic organisation and continuity.

The occurrence of NI in the Rheme starts high in K-IST1 at 90%, decreases a little in K-IST2 and K-IST3, and increases substantially in the last two essays to 96% which indicates progress in thematic continuity. However, the percentages of acceptable occurrences are lower by 11%, 11% and 10% in the last three essays respectively.

There is an immediate improvement through the reduced use of the empty Theme after K-IST1 which continues through to the end. The empty Rheme occurs twice only: once in each of the first two K-ISTs. Both factors indicate progress in the distribution of information.

8.5.2 Cohesion

Table 8.5.2K-ISTs: key cohesive features in relation to the number of T-units

Item	K-IST1 (31)			K-IST2 (16)			K-IST3 (20)			K-IST4 (27)			K-IST5 (28)			T
	Total	/	x	Total	/	x	Total	/	x	Total	/	x	Total	/	x	
CA	4	4	0	5	3	2	8	7	1	4	4	0	5	3	2	26
C	14	14	0	5	5	0	3	3	0	10	10	0	6	6	0	38
AR	12	11	1	4	4	0	12	9	3	18	16	2	24	22	2	70

Table 8.5.2K-ISTs shows that circumstantial adjuncts are used in all the essays adding variety and helping cohesion. In K-IST2 and K-IST3 they are used more frequently than in the other essays: 31% and 44% respectively. In K-IST3, all but one are acceptable. But in K-IST2 and K-IST5, only 3/5 are judged acceptable.

Conjunctives and other adjuncts are used effectively throughout. All are judged acceptable. They occur most frequently in K-IST1 and K-IST4: 45% and 37% respectively. As with CAs, they add linguistic variety to the text as well as enhance cohesion. However, in K-IST2, where their frequency is 31%, closer qualitative examination shows that in T-units 12 and 16 they contribute to overloading the Theme. Both times, the pattern ‘Not only...but...’, which has two Cs, is utilised in the Theme e.g. (T12) ‘Not only the chemical properties, but the test for taste (R12) is also done.’ The same pattern is used in K-IST4 but this time across two T-units so that there is no overloading of the Theme thus showing some improvement in using this pattern:

(T14) Not only the adaptability to their environment (R14) is important, (T15) but also there (R15) are selective pressure.

While the frequency of all forms of anaphoric reference improves noticeably from K-IST3 onwards (1:39%,; 2:25%; 3:67%; 4:67%; 5:86%), the frequency of using acceptable forms shows the following pattern: 1:35%; 2:25%; 3:50%; 4:59%; 5:79%, also revealing increases in K-IST3 and K-IST4 followed by a substantial increase in K-IST5, thus helping progress in cohesion. Of a total of 70 anaphoric references in the five essays 62 are judged as acceptable.

8.5.3 Lexicogrammatical features

Table 8.5.3K-ISTs: Nominalisation and passive verb forms

	K-IST1 (31)			K-IST2 (16)			K-IST3 (20)			K-IST4 (27)			K-IST5 (28)		
Item	Total	/	x	Total	/	x	Total	/	x	Total	/	x	Total	/	x
SNom	11	10	1	11	10	1	5	5	0	14	14	0	11	11	0
CNom	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
PV	14	14	0	9	9	0	12	10	2	16	16	0	13	13	0

Table 8.5.3K-ISTs shows that the highest use of simple nominalisation in relation to the number of T-units is in K-IST2, the only essay with complex nominalisation, followed by K-IST4.

Keiko's development in the use of nominalisation is interesting in K-IST2. For example, the Theme in T-unit 8 (as mentioned earlier) is overloaded because it comprises three nominalisations including one CNom ('using chlorine to disinfect the water supply') and two SNoms, one of which is found unacceptable ('the provement of that there is a link between cholera outbreaks and a public well polluted by privy vaults nearby'). The nominalisations used in the last three essays are all judged acceptable; because they shorter and more limited in the amount of information they contain there is no overload and thus improvement.

Passive verb forms are used quite frequently across the five essays, within a range of 45% (in K-IST1) to 67% (in K-IST3) in relation to the total number of T-units. However, the range of acceptable forms of the PV is narrower, gradually increasing from 45% in K-IST1 to 59% in K-IST4, then decreasing a little in K-IST5 to 46%, the only two items judged unacceptable occurring in K-IST3, where Keiko's Language mark is lowest.

8.5.4 Summary of Keiko's progress and change in her five essays

In summary, Keiko has made some progress as shown by her marks. The areas where there is evidence of progress across the essays are:

Content - in relevance, comprehensiveness and the treatment of supporting detail through:

- more hyperthemes directly relevant to the task instruction,
- better use of hyperthemes for coverage of the task instruction,
- better thematic development through longer sequencing of simple linear progression,
- better thematic development through more simple linear progression in relation to constant progression.

Organisation - in overall cohesion and the clear ordering of points through:

- an improvement in the balance and ordering of the hyperthemes in relation to one another and to the task instruction,
- better thematic continuity through longer sequencing of thematically linked T-units,
- a reduction in the frequency of new information in the Theme and of the empty Theme,
- an increase in the frequency of new information in the Rheme,
- the disappearance of the empty Rheme,
- an increase in the use of anaphoric referencing.

Language - in linguistic complexity, appropriateness of discourse and range of structures through:

- better use of the conjunctive pattern: 'Not only ...but',
- more acceptable uses of anaphoric referencing,
- more appropriate uses of nominalisations.

8.6 Keiko's progress and change in terms of her approach to all the ISTs

Keiko's progress is examined through her comments in the post-task interviews and her micro-task notes. First it is briefly discussed in terms of the approaches she adopted to address each IST, task by task, and then a comparison is made across all the ISTs. Further details about her approach to each IST are given in Appendix A-8.(1-5).

8.6.1 Keiko's progress in each IST

K-IST1	OI	C	O	L
	3.50	3.50	3.50	4.00

Through gaining insights into Keiko's ways of working it becomes possible to understand what underlay her essay. Her notes are quite extensive and include some evidence of planning which is transferred into her essay through the hyperthematic organisation. But it would appear that she could not fully control what she was doing. For example, she said: 'I think I made the wrong start in the introduction' and, referring to P2, 'When I started writing on the main point on the essay I was doing the wrong thing.' This might explain her long, scene-setting introduction occupying two paragraphs and her change of direction from T-unit 7 to T-unit 8 where there is a thematic break. At that point it is possible that she started to wonder about the direction her essay was taking because the part developed from H(a) followed by H(b), form a long introduction to the main part of the essay.

When, after H(e), the content of the essay becomes more general, she may have become concerned about finishing her essay. She said that, ten minutes before the end, she began to wonder if she had misunderstood the task instruction: 'and when I finished my main paragraphs I thought what shall I write for the conclusion'. This also suggests that her mainly holistic approach could not help her to sustain a high standard because she had become short of time.

The fact that Keiko had made many notes indicates that she may have had a lot of information to include in her essay. This could mean that she included ideas separately because she thought they were important but that she neglected to integrate them into the text as a whole. In eight cases, the Theme carries new information which suggests that Keiko sometimes felt the need to present it early in the T-unit. In four cases, the empty Theme serves solely to introduce new information in the Rheme. In three other cases, cohesion is assisted through the use of conjunctions which suggests that Keiko's interest in and awareness of language are helpful to her in presenting the information at her disposal in an appropriate genre. This is supported by the range of acceptable devices she uses: e.g. circumstantial adjuncts, nominalisations and passive verb forms.

K-IST2

OI	C	O	L
3.25	3.25	3.00	3.00

Keiko’s approach to IST2 is revealing about her written essay. Her comments and notes suggest that the task session was a frustrating experience for her. It seems that she tried to think about the task holistically but sometimes had to resort to a surface approach with some atomistic quick-fixing as revealed in her essay through the complex thematic constructions overloading the Theme.

Nevertheless, in her attempts to accommodate task content, the evidence of risk-taking with her interlanguage is commendable particularly in the uses of circumstantial adjuncts, conjunctives and other adjuncts for thematic linking. She seems to have adopted an atomistic type of surface approach in using some of them since they do not always fully support the organisation of the content.

Keiko’s comments suggest that she may have been operating at two levels that did not interact: a holistic thinking level which she could not translate into the textual level of writing. For example, she said: ‘It was difficult / to change this diagram into how chemist work.’ referring to the large diagram in the text input and: ‘When I started writing I thought I have nothing to write.’, which explains the brevity of her essay. Nevertheless, the thinking she had done at the beginning may have been helpful because her essay is fairly substantial. She may have had too little time to decide what to write but had strategically tried to consistently follow the task demands.

Her comments also suggest that she was constantly appraising her performance during the process by trying to assess whether and how far she was managing the task in the light of her own abilities. For example, here she had difficulty understanding the documentary and said:

At first I thought I should write essay from video and text but now I think I can write essay from my own ideas and use video and text to support my ideas.

It seems that Keiko had been reflectively analysing her approach and thinking about how to improve. Her comments suggest that she had not been able to justify her ability in the essay, as indeed her marks seem to show.

K-IST3

OI	C	O	L
3.00	2.50	3.00	3.00

Keiko’s marks, including a drop in Language from 4 to 3.5, are her lowest so far. Her comments during the interview suggest that the task was too difficult for her to justify her ability. In the following interview she said that during the thinking time ‘I could do nothing’.

Her comments also suggest using a strategic approach by exploiting the text input that she could understand and find useful, and in disregarding what she could not understand. Her essay starts with the information mainly extracted from a part of the text. Perhaps this is because that was the easiest thing for her to do. She seems to have made some important strategic decisions to manage the task because she then moved on to the documentary information to address the concept of thrust and attempted to present what she had understood and make it relevant to the task instruction. But here she had to resort to a surface approach to make a link between the two hyperthemes and end the essay.

This time she was able to draw on the benefit of two experiences of doing IST1 and IST2, in both holistic and analytical ways. Her comments suggest that she had become more familiar with the

task format and the different ways in which the composition and presentation of the content might be helpful but also might pose difficulties in relation to her ways of working. Being selective indicated a change in her approach towards the ISTs perhaps because she had reflected on her experiences of doing the first two tasks.

I suggested in the interview that she had addressed the task in the best way she could in view of the difficulties she encountered and said: ‘now you need to go further in the direction of using your common sense and general knowledge to a greater degree’. She responded thoughtfully with: ‘Sometimes I feel that’s true.’ as if she was thinking along those lines herself. It appears that she had further enhanced her awareness of the need to adjust to each specific task.

K-IST4

OI	C	O	L
4.00	3.50	3.75	4.25

Keiko’s approach to IST4 was entirely deep. It was holistic and analytic, suggesting that her past experiences of ISTs had helped her to automatise her behaviour in addressing the task. It is possible that she had no need to think consciously about following the step by step procedure but was able to combine input with output processing sub-consciously. Her behaviour seems to have been analytic only in her well-rehearsed way of examining the task instruction. There was no evidence of her feeling pressurised this time:

I just felt interesting and / from / not for this essay just for myself and read all through and then at my watch and (laughs) I didn’t skim anything.

Her comments here suggest a much more relaxed attitude to addressing IST4 than in previous ISTs which is interesting in view of her much improved marks. She was probably motivated to learn about evolution to the extent of developing her own knowledge and understanding of it as she was engaged in doing the task. As her higher marks show, particularly in Language, it appears that she was able to write much of her essay in the way she wanted to.

K-IST5

OI	C	O	L
4.00	4.00	4.00	4.00

By this last task it would seem that Keiko was confident about how she could best tackle an IST. It would appear that she did not need to prepare her essay comprehensively on paper. It is possible that her experiences of doing the other ISTs encouraged her to adopt a particular holistic approach where she was less anxious to follow the task procedure word for word and more intent on thinking through the task as a whole. Indeed this seems to be reflected in the hyperthematic organisation, which describes the whole essay, thus revealing how relevant and comprehensive the essay is in addressing the instruction. There is also an indication that Keiko was thinking clearly throughout writing her essay since most of the essay is well-linked thematically.

It appears that she was able to improve her performance as she became more familiar with the task demands and with how she was best able to address the task. Her comments suggest that her approach to IST5 was similar to her approach to IST4 so that perhaps her experience of writing K-IST4 was helpful in writing K-IST5. In K-IST5 her writing reflects clear thinking because she used a variety

of linguistic features that were appropriate to the scientific genre. If so, this could explain how she achieved the same high marks in Content, Organisation and Language reflecting an integration of the three aspects of language use.

8.6.2 A Comparison of the approaches adopted by Keiko across the five ISTs

A summary of the approaches used by Keiko is presented below in Tables 8.6.2K-ISTs(i), (ii) and (iii) below.

Table 8.6.2K-ISTs(i): Summary of the types of deep approach used by Keiko in the ISTs

DEEP	IST	1	2	3	4	5	Total
holistic	a	/	/	/	/	/	5
	b	/	/	/	-	-	3
	c	-	-	-	/	-	3
reflective	a	/	/	/	/	/	5
	b	-	-	-	/	-	1
Total		3	3	3	4	3	16

Table 8.6.2K-ISTs(ii): Summary of the types of strategic approach used by Keiko in the ISTs

STRATEGIC	IST	1	2	3	4	5	Total
analytical	a	/	/	/	/	-	4
	b	-	-	-	-	-	0
skill-oriented	a	/	/	/	-	-	3
	b	-	-	/	/	/	3
	c	-	-	-	-	-	0
self-regulation	a	-	-	/	/	/	3
	b	-	-	-	-	-	0
	c	-	-	-	-	-	0
controlled risk-taking	a	-	-	-	-	-	0
	b	-	-	-	-	-	0
selective	a	-	-	-	-	-	0
	b	/	-	-	/	-	2
compensatory	a	-	-	-	-	-	0
	b	-	-	-	-	-	0
	c	-	-	/	-	-	1
coping	a	-	-	-	-	-	0
	b	-	-	-	-	-	0
	c	-	-	-	-	-	0
Total		3	2	5	4	2	16

Table 8.6.2K-ISTs(iii): Summary of the types of surface approach used by Keiko in the ISTs

SURFACE	IST	1	2	3	4	5	Total
atomistic prioritising	a	-	-	-	-	-	0
	b	-	-	-	-	-	0
atomistic quick-fixing	a	-	/	/	-	-	2
	b	-	-	-	-	-	0
uncontrolled risk-taking	a	-	-	-	-	-	0
Total		0	1	1	0	0	2

Table 8.6.2K-ISTs(i), (ii) and (iii) show that Keiko’s main approaches are both deep and strategic. Only in IST2 and IST3 does she appear to have resorted to one type of surface approach. She used the same two types of deep approaches in all five ISTs, one holistic, the other reflective, which suggests that she had found them useful and was able to develop her use of them across all the ISTs. She also used the same analytic strategic approach in the first four ISTs and the same skills-oriented strategic approach in

the first three ISTs. She used another skills-oriented strategic approach and one self-regulatory strategic approach in the last three ISTs. This suggests a high degree of consistency in her way of working.

Table 8.6.2K-ISTs(iv) provides a more detailed description of the approaches adopted by Keiko.

Table 8.6.2K-ISTs(iv): Details of the approaches used by Keiko in the five ISTs

App.	Type	Features of the approaches in the context of the ISTs	IST
deep	hol	(a) seeking to conceptualise task demands	1,2,3,4,5
		(b) seeking to understand self-ability in relation to task demands	1,2,3
		(c) conceptualising task demands in relation to long-term interests	4,5
	ref	(a) critiquing self-performance	1,2,3,4,5
		(b) critiquing task demands in relation to self-ability and long-term interests	4
strategic	analy	(a) analysing task instruction and planning essay through using information input/previous knowledge and experience	1,2,3,4
	sk-or	(a) closely following advice and instructions given about task procedure	1,2,3
		(b) consulting dictionaries to understand instruction and topic, to plan essay	3,4,5
	self-r	(a) drawing on previous experiences of doing ISTs for task management	3,4,5
	sel	(b) focusing on features of interest such as language and content	1,4
surface	comp	(c) focusing on comprehensible input for managing the task	3
	ato-qf	(a) addressing dominant concerns regardless of priority e.g. finding short-term solutions to write parts of the essay and experimenting with complex syntax to express intended meaning	2,3

As Table 8.6.2K-ISTs(iv) shows, it appears that Keiko sought to conceptualise the task demands and to critique her own performance in all the ISTs. For example, during the interview after IST1 when I asked what was difficult about the task, she said: ‘I think I made the wrong start in the introduction.’ This type of deep approach of seeking to understand how she could address the demands in the early part of the course, probably helped her to become familiar with the tasks and to refine her strategic approach.

The skills-oriented strategic approach she adopted from the beginning for the first three ISTs was one where she closely followed the advice given in the task procedure. For example she commented: ‘I had lots of time for Procedure 1 (probably referring to Step 1 of the task) so I wrote things down.’ However she mentioned having problems with IST2: ‘I couldn’t write much notes from the video’. She mentioned that she found note-taking difficult. She said that she used the text for ‘introduction and history but for cause-effect chain and for the chemist how they work I think it was useless.’ Thus, in writing about the history, which was not a part of the task demands, she was adopting an atomistic quick-fixing type of surface approach.

She would appear to have had similar problems with the content in IST3 and resorted to the same type of surface approach, addressing dominant concerns regardless of priority, because she said she had difficulty understanding the meaning of ‘thrust’:

I watched the video and I thought it was the engine. But when I was writing the essay I thought that’s the wrong idea, er I got panic.

But she also became interested in extending her general scientific knowledge. For example, about communication technology she said: ‘For me to open these panels by remote control is amazing’. In this task she started consulting dictionaries to understand the topic and the task instruction. In IST4 she appears to have been more relaxed than before, because she spoke about her enjoyment of reading the

text to learn more about the topic. But she also seems to have started questioning the content in more depth thus further shifting in her skills-orientation:

At first I thought it's not much difficult than the one before. But when I started to think about writing the essay, I found I really don't know what's Darwin's theory is so I looked up in the dictionaries and I watched carefully the video.

It is probable that each experience of doing an IST helped her to develop her uses of the strategic approaches she found effective so that she came to use them more systematically. She also moved on to adopt new types of strategic approach which she thought would help her progress and to refine these. It is possible that this would have allowed her strategic behaviour to have become automatised so that, in IST5, she could develop her essay as she was writing it, as she commented:

'I didn't write much for my plan, only the word or sentence I'm going to write in the first paragraph or second paragraph.' and, 'Then I started to write the essay.'

8.7 Conclusions

Having examined Keiko's progress through three aspects of her performances: her marks according to the assessment criteria, the text analysis of her essays and her approaches to the ISTs, these are now examined as integral parts of her whole progress within the task-based course. Tentative comments are made about possible links between her approaches to the tasks and her performances in her essays with reference to his marks and to the text analysis.

<i>Content:</i>	K-IST1	K-IST2	K-IST3	K-IST4	K-IST5
	3.50	3.25	2.50	3.50	4.00

Keiko's Content marks show clearly that she had problems with IST2 and IST3 but was able to recover and progress to reach Band 4 at the end. In both K-IST2 and K-IST3 she had difficulty making connections between the information input and the task instruction. This is why the set of hyperthemes in both essays does not provide as comprehensive coverage as in the other three essays and why both essays are considerably shorter than the others. But throughout the course Keiko's general approach to the tasks was consistent and systematic so that she was able to improve in the content of her essays: in relevance, comprehensiveness and in including supporting detail. In K-IST5 the hyperthematic organisation describes the whole essay, revealing the relevance and comprehensiveness of the essay is in addressing the task instruction.

<i>Organisation:</i>	K-IST1	K-IST2	K-IST3	K-IST4	K-IST5
	3.50	3.00	3.00	3.75	4.00

To a lesser extent than with Content, Keiko's marks for Organisation show a similar pattern: progress in general but some problems with K-IST2 and K-IST3, particularly with the balance, ordering and linking of consecutive hyperthemes in both essays. After that the continuing progress in overall cohesion through to the last essay is probably due to a practiced type of strategic approach, analytically

examining the task instruction and planning the essay, that brought about several improvements: tighter organisation of hyperthemes in relation to the task instruction, better distribution of information within the T-unit, more continuity through longer thematic sequences, better thematic development, more and longer sequencing of simple linear and less constant progression, better use of conjunctives and adjuncts in the Theme and more use of anaphoric references. These indicate that Keiko had gained much better control of the task as a whole than the earlier ISTs, thus accounting for the higher marks in K-IST4 and K-IST5.

<i>Language:</i>	K-IST1	K-IST2	K-IST3	K-IST4	K-IST5
	4.00	3.00	3.50	4.25	4.00

Keiko’s higher marks for Language, particularly at the beginning of the course, reveal that she had a good command of English on which to build. The problems with K-IST2 and K-IST3 probably resulted from her difficulties with the content. Clear improvements after K-IST2 are evident mainly through the use of nominalisations. In K-IST2 the average number of words per T-unit is 17, which is the highest number and is due to the linguistic complexity of some nominalisations. In later tasks this is reduced so that information overload disappears, and nominalisations become increasingly more appropriate as discourse features, particularly in K-IST4. The increase in the range of structures in K-IST5 is probably due to the fact that Keiko consulted dictionaries more frequently in the last three tasks which helped her to gain not only a deeper understanding of the task but also how to express newly acquired knowledge.

<i>Overall Impression:</i>	K-IST1	K-IST2	K-IST3	K-IST4	K-IST5
	3.50	3.25	3.00	4.00	4.00

The progress revealed by Keiko’s marks for Overall Impression in K-IST4 and K-IST5 can be explained by her progress in the other three criteria. Improvements in Content and in Organisation are matched by improvements in Language so that there is a leveling out of differences in the marks for Content, Organisation and Language in her final essay due to a more balanced product. For example, compared with the earlier essays, in K-IST5 the hyperthemes are enhanced in relevance, comprehensiveness and in sequencing information in relation to the task instruction, and the more detailed content is matched by an increased range of linguistic structures. Keiko’s deep approach of continually reflecting self-critically on each preceding task performance probably made these improvements possible. She only resorted to a surface approach in her two weakest essays, K-IST2 and K-IST3.

The evidence suggests that, for K-IST5, she could work out in her mind the key ideas she needed to highlight in the essay. Rather than worrying about grammatical accuracy she seems to have prioritised thematic linking at the level of text over expressing her ideas at and below the level of clause.

The average number of words per T-unit in her essays range from 13.39 in K-IST1 to 17.00 in K-IST2. Interestingly the average T-units in the final two essays are similar in length and, with both marks being high at 4.00, this suggests that Keiko has made improvements in task management through successfully adopting a self-regulation type of strategic approach.

8.8 Closing Comments

Keiko moved up one band to reach Band 4 where it could be predicted that her language use would facilitate her academic success at undergraduate level. Her final set of marks displays a leveling out of the Content, Organisation and Language criteria at the end of the course. The textual analysis of her essays reveals the improvements she made in writing her essays: e.g. better hyperthematic organisation, better thematic distribution of information and more appropriate discourse features, particularly nominalisations.

The evidence of the mainly deep and strategic types of approaches that she adopted and consistently used to address the ISTs probably channeled her progress in her essays so that she became well-rehearsed in using them and more confident and relaxed about addressing the later tasks, thus helping her to make improvements where needed. K-IST3 was a turning point. It was the second of the two tasks Keiko found most difficult and it was in preparing this essay that she adopted new types of strategic approach which were very helpful to her in the last two essays.

Throughout the course Keiko worked to enhance her understanding of the task demands in relation to her knowledge of herself as learner and her strategic knowledge. This proved helpful right from the beginning in gaining more control over her development. Because she found both IST4 and IST5 much easier to manage, she was able to explore further her potential because she no longer needed to follow the instructions for the task procedure closely.

From the beginning she was intrinsically motivated to succeed so as to move towards her long-term goals of working for an international environmental organisation which is probably why she was highly receptive to the course. At first she appeared to lack self-esteem but, rather than dwelling on her limitations and feeling pressurised, she became more confident and more absorbed in what she was doing thus lowering her affective filter to the extent that she could consider the reader's perspective in working on K-IST5. Her comments about addressing IST4 reveal her more relaxed and confident attitude, which could be an asset in her future studies:

Well when I started reading I just felt interesting and / from / not for this essay just for myself and read all through and then at my watch and (laughs) I didn't skim anything.

CHAPTER 9

THE PROFILE OF MASAKI'S PROGRESS ACROSS THE FIVE ISTS OF THE COURSE

9.1 Introduction

Masaki was 19 years' old and had just completed his secondary education at senior high school in Japan. When he joined the pre-university programme, his English was at a level equivalent to 5.5 on the IELTS scale which meant that it was basically sound but he had problems communicating his ideas orally.

His academic interests, which were also his hobbies, were strongly situated within technology and engineering. He was particularly interested in the amplification of sound. He wanted to study in the UK because he felt that he would receive a more theoretical grounding in these areas than he would in Japan. He was particularly interested in studying physics.

Masaki was consistently pleasant, modest, quiet and retiring, with a good sense of humour. He seemed happy to spend most of his time with individual rather than sociable pursuits. His character seemed strongly reflected in the way he spoke English: rather slowly with deliberation and very hesitantly, rarely making light-hearted conversation. But he was usually able to convey his meaning at a conceptual level.

9.2 Masaki's essays

Starting on the next page are the transcripts of the five essays that Masaki wrote for the Integrated Skill Tasks.

M-IST1

Discuss the advantages and disadvantages of the wind turbine as a means of supplying energy in the future. Compare it with other means of supplying energy.

P1	(T1)Discussing the advantages and disadvantages of using the wind turbine as means of supplying energy (R1)would lead to comparing the wind turbine with other means of supplying energy
P2	(T2)The advantages and disadvantages of using the wind turbine as means of supplying energy (R2)are as follows, (advantages) (T3)The expenses to run (R3)is low (1) ----- (T5)The pollution of the environment with chemicals (R5)is zero. (T8)The capability of generating electricity (R8) is enough to be demanded. (3) (T10)The cost of source (R10)is zero. (4)
	(disadvantages) (T4)The expenses to set up in the first place (R4)is high (1) (T6)Supplying energy (R6)depends on the environment, (T7)for example the sites to construct them (R7)are limited. (2) (T9)The cost of maintenance, that is, the rotor (see Fig.1) etc. (R9)have to be removed regularly. (3)
P3	(T11)Comparing the wind turbine with other means of supplying energy, especially thermal power station, nuclear power station and solar panel etc (R11)is as follows, (T12)the wind turbine (R12)has good advantages according to (1), (2) and (4), (T13)especially thermal and nuclear power station (R13)need ores to supply energy and cause air pollutions or have the risk of it. in contrast with other means of supplying energy (T14)and also it (R14)has the capability of generating electricity as well as the others. (T15)On the other hand, the wind turbine (R15)has disadvantages like (1), (2) and (3). (T16)Particularly, the disadvantages (2)(R16) is big problem. (T17)The wind turbine (R17)can generate a large amount of electricity at windy days but not at calm days, (T18)that is, supplying energy (R18)is unstable in contrast with the others. (T19)Therefore we (R19)can't have guarantee to supply energy more than its cost like (1) and (3). (T20)That (R20)is one of crucial reason that the wind turbine can't be used widely (Fig 1: wind turbine)

M-IST2

With reference to the video documentary 'Chemists at Work' and the text 'Water', describe the causes and effects of water pollution. Discuss how the chemist can help to improve the situation

P1	(T1)Water pollution (R1)is one of big problems which human have had for a long time. (T2)The causes of water pollution (R2)are especially industrial discharges and some incidents, for example crashing tanker, etc. (T3)Then, the effects of water pollution (R3)are so many, for example, the damages of food plants and the ecology of rivers, and low quality of drinking water. (T4)Thus, some solutions (R4)are need in that situation. (T5)Chemists (R5)have been tring to improve it. (T6)Their methods (R6)are, especially, the sampling, detecting of water and observation of the ecology of a river.
P2	(T7)Chemists (R7)daily collect water sample. (T8)There (R8)are two types of water, that is, the water of houses and some sources and wasted water by industrial discharges. (T9)Then, they (R9)detect the substances contained in water by some instruments. (T10)Those instruments (R10)are illustrated in Fig 1 and Fig 2. (T11)The instrument of Fig 2 (R11)is especially used to detect the metals contained in wasted water. (Fig.1: To know the exact chemical substances contained in water.) (Fig.2: To know the exact metals contained in water.)
P3	(T12)From the results of the detecting, (R12)chemists investigate the parttern of the substances contained in ordinary water. (T13)In particular, the amount of O2 and metals in water (R13)is important. (T14)A lack of O2 in water (R14)causes the damage of the ecology in a river and a food plant. (T15)In contrast with O2, (R15)the enormous amount of metals in water destroies the ecology and even killed people who drink such a water and eat something produced by such a water.
P4	(T16)Finally, chemists (R16)regularly observe the ecology of rivers, (T17)then they (R17)know the influence of water pollution.
P5	(T18)It (R18)is obvious that the methods of the disposal of industrial discharges have to be improved. (T19)Therefore, a science research (R19)is so important.

M-IST3

Concerning the use of satellites in space, why is the concept of thrust important to mankind? Discuss this with reference to the progress made between 1980 and 1991 using the video documentary 'Newton and the Shuttle' (1983) and the text 'Eye in the Sky' (1991).

P1	(T1)I. Newton (R1)was the first man to find out the logical relationship between the motion around our life and the motion of bodies in space. (T2)About 300 years later, (R2)human has already achieved the dream to go to space. (T3)However, why (R3)has it taken so much time?
P2	(T4)The concept of thrust (R4)has carried out the role of launching a satellite into space, (T5)because the system of launching a rocket (R5)depends on the principle of Newton's third law. (To every action, there is an equal and opposite reaction, see Fig A) (T6)and also certain velocity (R6)is needed to free from gravity. (T7)It (R7)is given by the Newton's law of universal gravity (The magnitude of the force between two bodies whose the mass of m and m' is inversely proportional to the seure of their separation r and directly proportional to the product of their masses, that is mm'.) (T8)Thus, considerable energy (R8)is consumed in order to get the velocity which is called escape velocity. (T9)That (R9)is one of reasons why it has taken so long time to launch a satellite.
P3	(T10)However, the explosive development of technology (R10)has made it possible. (T11)And a shuttle whose even larger mass (R11)has been launched by N.A.S.A.
P4	(T12)The success (R12)was very much ample. (T13)From satellites launched into orbit around the earth (R13)we can get many detailed information about the earth, for example, the change in our climate and environment; transmitting radio signal from a part of area of the earth to the whole earth. (T14)And then, our interests (R14)are spreading over the universe, for example, all the planets of the Solar system, and the activity of the sun and so on. (Fig A, Newton's third law)
P5	<< explanation>> (T15)When the explosion is casued, (R15)the barret is intensively pushed out and the heavy gun simultaously is moved in the opposite direction of the burret. (T16)And also the magnitude of the force exerted on the burrent and the gun (R16)is the same as each other.

M-IST4

Describe Darwin's theory of evolution. Discuss how it has contributed to further knowledge and change.

P1	(T1)In the 1850's, (R1)C. Darwin wondered why there were so many kinds of species, after a long voyage. (T2)And then, C. Darwin (R2)propounded the theory of evolution in his book 'On the origin of species'.
P2	(T3)The theory of evolution (R3)has suggested that species are capable of changing or evolving, into new species. (T4)The idea of the theory (R4)drived from the study of the origin of species. (T5)By studing the origin of species, especilly the classification of living things, (R5)C. Darwin noticed that living things were affected by the changes in surroundings around then and their organism were gradually adjusted to the conditions under which they live. (T6)Then, he (R6)came up with the ideas that species were capable of changing or evolving, into new species with the changes in surroundings aroud them.
P3	(T7)Recent scientists (R7)have given many evidences of the theory by investigating fossils and changing gene's capacity and so on. (T8)In general, the theory of evolution (R8)is regarded as well-deserved theory.
P4	(T9)The contributions of the theory of evolution to further knowledge and change (R9)are so many.
P5	(T10)For example, by breeding mixture between other species; (R10)it is possile to generate a fertile off-spring. (T11)This basic idea (R11)is used for recent genetic engineering. (T12)Another example (R12)is that the theory also implies the shift of the land surface of the globe, because of the existance of the same species in the whole world. (T13)This implication (R13)is also verified by recent geological reaserch. (T14)However, the most important contribution of the theory to human (R14)is to change the theological view of natural selection into the scientific view of that. (T15)This (R15)is the one of important revolutions of human mental activity.

M-IST5

Show how the discovery of the gene has led to important developments in science.

P1	T(1)Recently the development of genetics (R1)is highly expanded into several branches of science. (T2)One of the main application of genetics (R2)is genetic engineering.
P2	(T3)Briefly speaking, genetic engineering (R3)is the technology involved in altering the genetic constitution of organism. (T4)And it (R4)is used for medicine, agriculture, industry and so on.
P3	(T5)For example, genetic engineering (R5)is used for the research of inherited deseases. (T6)As a result of the research of genetics, (R6)the mechanism of inherited deseases has been well known.
P4	(T7)Supposed both parents have some genes which would cause an inherited desease, (R7)their children have a certain possibility of being transmitted some defective genes by parents (See the diagrams below.) (diagram: Transmissions of genes from parents and children)
P5	(T8)According to the above diagram, (R8)it turns out that the child (D) has been transmitted two types of defective genes which are called recessive genes. (T9)In this case, (R9)the only children (D) have a high possibility of having an inherited desease, (T10)although the probability of children being borned with an inherited desease (R10)is quite low.
P6	(T11)Recently, by the research of genetics, (R11)it has become possible to determine whether parants have some defective genes or not. (T12)Moreover, scientists (R12)can alter those genetic construction by genetic engineering. (T13)Crudely speaking, the method (R13)is shown in the diagram below (diagram: Altering the genetic constitution) (T14)By using genetic engineering, (R14)it would be possible to prevent inherited deseases from transmitting to offspring and to understand any kind of deseases which human suffers.

9.3 Essay length

Table 9.3M-ISTs: The number of words and the number of T-units in each M-IST

	No. of words	No. of T-units	Av. no. of words per T-unit
M-IST1	285	20	14.25
M-IST2	293	19	15.42
M-IST3	329	16	20.56
M-IST4	277	15	18.47
M-IST5	242	14	17.29

Table 9.3M-ISTs shows that Masaki's longest essay is M-IST3 and his shortest is M-IST5. The essay with the lowest average number of words per T-unit is M-IST1 and the essay with the highest average number of words per T-unit is M-IST3. In M-IST5, the final essay, the average number of words per T-unit is higher than in the first two essays and lower than in M-IST3 and M-IST4. It also has the lowest number of T-units. Further analysis to follow will help to understand the information in this table.

9.4 Assessment

In this section Masaki's marks according to the assessment criteria are commented on task by task. Then a comparison of the marks across the five tasks is made to show his progress.

9.4.1 Masaki's performance on individual ISTs

M-IST1	OI	C	O	L
	2.50	2.75	2.75	2.25

Masaki's first essay is well-connected throughout but rather brief. The marks for Content and

Organisation, which are the same, 2.75, reflect weaknesses as well as strengths. Most strikingly, the essay covers quite a lot of ground economically using two techniques: listing and systematic numbering for cross-referencing. P2 is clearly organised, though not in connected discourse but in note form; the advantages and disadvantages are not discussed in this section. There is a brief introduction but no conclusion and the essay ends rather abruptly.

The Language mark is lower at 2.25 because coherence is sometimes a problem at the lexicogrammatical level. For example: 'The capability...to be demanded.'(T-unit 8) probably means 'They (wind turbines) have the capacity to meet the demand for electricity.' and occasionally there are gaps in the linking of the information causing ambiguity: e.g. 'especially thermal...the risk of it.'(T-unit 13) and 'we can't...its cost.'(T-unit 19). Cohesion is assisted by number referencing in P3 but there are problems with lexical cohesion: e.g.'The cost...rotor'(T9). Two conjunctive uses of adverbs expressing manner introduce emphasis rather suddenly: i.e. 'especially'(T13) and 'particularly' (T16). Much use is made of complex nominalisations in subject position, contributing particularly to the listing style of P2. They give a clear sense of sentence structure, as in: 'The pollution...chemicals'(T5). Mistakes such as choice of prepositions, omission of articles and spelling occur but do not interfere with the meaning.

The register is consistently formal throughout. But there are problems with punctuation which affect coherence: e.g. in T-units 11-13, where separate sentences are not clearly marked.

M-IST2

OI	C	O	L
3.25	3.50	3.25	3.25

Masaki's second essay shows clear improvement over M-IST1. As the marks show, there is an overall shift from Band 2 to Band 3. The mark for Content is much higher at 3.5, showing that the essay covers a lot of ground. There is an attempt to address all the demands of the task though the main focus is on the chemists' work of sampling and analysing. The essay coheres quite well from P1 to P3 using diagrams to present as much information as possible. However, they are not very clear.

The Organisation of the Content is also much better than in M-IST1 but it does fluctuate in quality, which explains the mark, 3.25. A lot of information is packed into P1, which begins with an introductory sentence and then moves into the causes and effects, using information from the two inputs. The chemists' work occupies Ps1-4 although P4 is very short.

The mark for Language is 3.25, a whole band higher than for M-IST1. There are helpful cohesive devices, which enhance thematic links. There is a wide range of acceptable anaphoric and cataphoric references. But there are weaknesses This is because coherence is well-achieved in parts through connected discourse using punctuation in lexical cohesion that sometimes cause ambiguity: e.g. 'some incidents' alongside 'industrial charges'(R2), and 'some sources'(R8).

The register is appropriately formal throughout. There is a good range of structures, including complex nominalisations as in: 'the results of the detecting'(T12) which indicates some fairly successful risk-taking, and 'the methods...discharges'(R18). Some mistakes in spelling, verb forms, the use of articles and prepositions persist but do not interfere with the meaning.

M-IST3

OI	C	O	L
3.25	3.25	3.25	3.25

This essay, like M-IST1 and M-IST2, is quite short. All the marks are the same. The Content mark, being 0.25 lower than for the last essay, reflects the strengths because coverage of the task instruction is limited. The essay focuses mainly on the principles of 'thrust' and demonstrates some technical knowledge in addition to using the information input. Other parts of the instruction are very briefly covered but not developed. Although not entirely relevant to the instruction, the argument in P2 explaining why it has taken so long to make progress in space is well-presented. The explanation of thrust is very helpful and appropriate. It refers to a diagram where, unfortunately, arrows indicating movement are omitted.

Similarly, the mark for Organisation is 3.25. There is a clear introduction but no conclusion. The content is clearly organised but not always well-linked. Sometimes there is no logical thematic continuity from unit to unit: e.g. 'The concept...gravity.'(T-units4-6). The last paragraph appears not to be P5, which explains a diagram, but P4, which ends weakly with 'and so on.'(R14).

The Language mark is again 3.25, which also indicates strengths and weaknesses. For several reasons, coherence is patchy. Generally there is a good sense of structure and punctuation is quite helpful. The register is fairly formal throughout and Newton's laws are presented in a technical genre. But neither of the inserted brackets stating them is fully contextualised. Cohesive devices are fairly frequent. Some are helpful, for anaphoric referencing: e.g. 'That'(T9), and for cataphoric referencing: e.g. 'However' (T10) to signal enhancement and 'for example'(R13) to signal elaboration. Some conjunctions are not helpful for coherence: e.g. 'because'(T5), 'And also'(T16). There are frequent problems with lexical cohesion: e.g. 'The concept...role'(T-unit 4), 'get the velocity'(R8), 'a shuttle... launched'(T-unit 11), and 'interests...spreading'(T-unit 14). Some basic mistakes are evident in using determinants and spelling.

M-IST4

OI	C	O	L
3.75	3.50	4.00	3.50

Masaki's marks in this essay show a clear improvement overall. His mark for Content, 3.5, is higher than in IST3 because the essay covers all parts of the instruction and gives a fairly clear, general account of the theory and its significance. However, the key concepts, 'natural selection', 'survival of the fittest' and 'artificial selection', are not discussed which is why the content is not as good as the organisation of the essay.

His mark for Organisation is high, 4, reflecting the clear structure in relation to the task demands. Both the introduction and conclusion are short but focused. Cohesive devices, particularly anaphoric and cataphoric references, and lexical cohesion, contribute to the clear organisation.

In Language, Masaki's mark, 3.5, is slightly higher than in M-IST2. Coherence is well-achieved in parts, especially throughout P2, and Ps4/5, which are unnecessarily separate paragraphs. There are also well-constructed nominal groups: e.g. 'The contributions...change' (L11), and logical connections, which are effective in developing the essay. But in some parts there are problems. In 'In the 1850's...after a long voyage.'(T-unit 1), the emphasis on new information is unclear due to the positioning of these two time adverbials and the simple verb form 'wondered' resulting in ambiguity.

Weaknesses in punctuation and in lexical cohesion sometimes affect coherence: e.g. 'well-deserved theory' (R8), 'breeding...species' (T10), where 'species' probably means 'breeds', and 'the theory...world.'(R12). Sometimes this is exacerbated by information gaps as in: 'evidences...theory'(R7), 'change...that.'(R14). Some lexical choices are inappropriate: e.g. 'given' (R7), 'implies' (R12), and 'change' (R14). Inappropriate preposition choices and basic mistakes, including spelling, persist but are not serious. Apart from 'came...idea'(R6), the register is consistently formal throughout.

M-IST5	OI	C	O	L
	3.50	3.25	3.50	3.75

In this last essay, Masaki’s performance is not as good as in M-IST4, possibly due to lack of familiarity with the subject since his main scientific interest is in physics. Nevertheless all his marks are well within Band 3, showing that his language use is beginning to facilitate his academic success.

For Content, he has gained 3.25, slightly less than in M-IST4 because this essay is highly descriptive and mostly about genetic engineering. The content is all relevant and quite comprehensive in this respect. The important links between genetics and genetic engineering are made clear. But genetics as the study of the gene is assumed. The details given in P4 and P6 are well-supported by diagrams, although not all clear. In the first diagram, which is closely incorporated into the written text, the parents appear to have two different types of defective genes and in the second the label 'bacteria' is unclear.

The mark for Organisation is 3.5, the same as for M-IST4. The organisation of the content is clear and appropriate to the task instruction. All the paragraphs are short but in parts some detail is included and well-positioned. The essay begins with a clear, short introduction. The last sentence is an effective ending, if an exaggeration.

Masaki shows clear progress in Language with his final mark, 3.75, being his highest for language. Several adverbial and nominal groups are well-structured and effective, and punctuation is generally helpful for coherence. The register is fairly formal but sometimes lapses into more informal levels: e.g. 'Briefly speaking' (T3), 'Supposed...'(T7), 'it turns out'(R8) and 'Crudely speaking' (T13). Lexical cohesion is maintained throughout. The anticipatory subject 'it' is used effectively three times in the Rheme to introduce an embedded subject. Minor problems persist such as the choice of prepositions and spelling but not the use of articles.

9.4.2 Comparison of Masaki’s progress across the five ISTs

Table 9.4.2M-ISTs(a): The assessment marks for Masaki’s five essays

	M-IST1	M-IST2	M-IST3	M-IST4	M-IST5
OI	2.50	3.25	3.25	3.75	3.50
C	2.75	3.50	3.25	3.50	3.25
O	2.75	3.25	3.25	4.00	3.50
L	2.25	3.25	3.25	3.50	3.75

Table 9.4.2M-ISTs(a) shows that Masaki has made some progress. There is a clear shift from Band 2 in

M-IST1, where ‘Language use will hinder academic success at undergraduate level’, to Band 3 in M-IST5, where ‘Language use may facilitate academic success at undergraduate level’. Masaki’s marks show that:

- his most consistent overall progress is in Language.
- his best essay is M-IST4, where his highest mark of all is in Organisation showing a dramatic increase of 1.25 from M-IST1.
- the range for each M-IST is never more than half a band and the marks completely converge in M-IST3.
- the range of his marks for each criterion across the five essays is variable but quite wide, from 0.75 for Content to 1.50 for Language.

Table 9.4.2M-ISTs(b): The assessment criteria and summary comments for Masaki’s ISTs

M-IST	AS	Mark	Summarised comments
1	OI	2.50	not all in essay format; fairly substantial; addressing task instruction
	C	2.75	all relevant; rather short; limited coverage; very informative in parts
	O	2.75	fairly clear; scant introduction, no conclusion
	L	2.25	meaning sometimes unclear; only partly in connected discourse
2	OI	3.25	good coverage of task instruction; fairly clear organisation; mostly coherent
	C	3.50	both parts of the instruction well-linked; fairly substantial; details lacking clarity
	O	3.25	fairly clear overall; weaker towards the end; some very short paragraphs
	L	3.25	meaning mostly clear; some ambiguities; some minor mistakes
3	OI	3.25	partially successful attempt to address the whole task instruction
	C	3.25	partially relevant and detailed; problems concerning progress; incomplete
	O	3.25	quite clear; problems with linking points; no conclusion
	L	3.25	meaning sometimes unclear; compressed information; well-written in parts
4	OI	3.75	addressing both parts of the instruction; well-organised; mostly intelligible
	C	3.50	mostly relevant; broad general coverage; some important information omitted
	O	4.00	closely following plan of the instruction; a fairly clear framework
	L	3.25	meaning mostly clear; clear, consistent style; unnecessary repetition; limited range of vocabulary
5	OI	3.50	informative; sometimes addressing instruction only indirectly; mostly intelligible
	C	3.25	all relevant; fairly comprehensive coverage with some details; highly descriptive
	O	3.50	mainly clear; ill-balanced distribution of information; introduction and conclusion
	L	3.75	meaning mostly clear; fluctuations in register; wide range of structure and vocabulary

Table 9.4.2M-ISTs(b) shows qualitatively how Masaki makes progress. In Overall Impression, there is progress in presenting the information in connected discourse, in overall structure and in addressing the task instruction. M-IST2 is clearly better than M-IST1 because coverage of the task instruction is better and the text is written in connected discourse throughout. There is evidence of more progress in M-IST4, the best essay, because, although one of the shorter essays, it addresses all parts of the instruction and is well organised.

The Content mark for M-IST2 shows clear improvement over M-IST1 in coverage of the task instruction. His level stays roughly the same in the remaining three essays, the content being fairly comprehensive. However, in M-IST3 the content is only partly relevant to the instruction which is why the content mark is lower than for M-IST2.

The Organisation marks show progress from the beginning. M-IST4 is the best essay in this respect because here the overall framework adheres very closely to the task instruction throughout, in contrast to M-IST2 and M-IST3, where the organisation is particularly weak towards the end. M-IST5 is

not as well-organised as M-IST4 but it does have a clear introduction and conclusion.

In Language, there is evidence of progress from beginning to end although there is little change across the three middle M-ISTs. In M-IST3, where the average length of T-unit is longest, 20.56 words, the meaning is unclear because the information is too compressed, as, for example, in T-unit 14:

And then, our interests are spreading over the universe, for example, all the planets of the Solar system, and the activity of the sun and so on.

But in M-IST4, there is clear improvement. This is maintained in M-IST5, where there is a wider range of structure and vocabulary, thus indicating more progress.

9.5 Thematic organisation, cohesion and lexicogrammatical features

The details for these features in each individual essay are given in Appendix A-9.(1-5).

9.5.1 Thematic Organisation

Hypertheme

Table 9.5.1M-ISTs(a): Hypertheme in Masaki’s essays

M-IST	No.	Hypertheme	T-units	Total no. of T-units
1	2	(a) The advantages and disadvantages of wind turbines (b) Comparing wind turbines with other means of energy	2-10 11-20	20
2	2	(a) The problems of water pollution (b) The chemists’ work on water pollution	1-4 5-17	19
3	3	(a) Newton’s discovery (b) The concept of thrust for using satellites in space (c) The influence of technological developments on progress	1-3 4-9 10-14	16
4	2	(a) Darwin and the theory of evolution (b) The contribution of the theory to further knowledge and change	1-8 9-15	15
5	3	(a) The development of genetics (b) Genetic engineering and inherited disease (c) The application of genetic engineering to defective genes	1-4 5-10 11-14	14

Table 9.5.1M-ISTs(a) shows that there are at least two hyperthemes in each essay. All the hyperthemes are relevant to the task instruction and that the hyperthematic organisation is generally clear.

In M-IST1, after the first T-unit, which is an introduction, H(a) leads into a section that addresses the first part of the instruction and H(b) into a section that addresses the second part. In turn they cover the remaining T-units.

In M-IST2, similarly, H(a) addresses the first part of the instruction and H(b) the second part. Then follow two separate T-units to conclude the essay. H(a) leads into an introductory section on the causes and effects of water pollution, covering only 4 T-units while H(b) leads into a more substantial section on the chemists’ work, covering 13 T-units. Both hyperthemes lead into quite comprehensive coverage but the second part is much more substantial than the first. In these respects there is an

improvement over Content and Organisation in M-IST1 as indicated by the higher marks for M-IST2.

In M-IST3, the three hyperthemes lead into quite comprehensive coverage of the task instruction. H(a) leads into the short introduction to the theory; H(b) takes further 'the concept of thrust' and its application for using satellites over the largest number of T-units, 6 in all; H(c), about progress, is developed over a fairly substantial number of T-units, 5 in all. The final 2 T-units present additional information and are a separate entity.

In M-IST4, the two hyperthemes clearly address each part of the task instruction in turn, H(a) leading into a description of the theory and H(b) into the contribution of the theory. They cover 8 T-units and 7 T-units respectively, thus giving substantial and well-balanced coverage of the task instruction which contributes to M-IST4 being assessed the best essay.

In M-IST5, H(a) leads into a short introductory section over 4 T-units; then both H(b) and H(c) introduce two discussions about how genetic engineering can be useful, with H(b) leading into the treatment of inherited diseases and H(c) introducing its potential applications. Here the hyperthematic organisation is not as good as in M-IST4 because it produces a less balanced coverage of the task instruction, with most of the focus being on genetic engineering.

Thematic Progression

Table 9.5.1M-ISTs(b): Thematic progression

M-IST	1	20 T-units 19 links	2	19 T-units 18 links	3	16 T-units 15 links	4	15 T-units 14 links	5	14 T-units 13 links
Type	No	SL	No	SL	No	SL	No	SL	No	SL
slp	5	1,1,1,1,1	5	1,4	7	1,1,2,1,1,1	8	2,2,1,1,1,1	7	2,4,1
cp	4	1,1,1,1	4	1,2,1	1	1	2	1,1	4	3,1
op	6	1,1,1,1,2	5	2,1,1,1	4	3,1	4	2,1,1	5	4,1
all p	14	3,2,1,1,7	12	1,4,6,1	10	4,4,1,1	12	10,1,1	12	9,3
sp	4	1(1+1),1(1+2), 1(1+1),1(1+1)	1	1(1+1)	1	1(1+1)	1	1(2+2+2)	0	-
no prog	1	1	3	1,2	0	-	0	-	0	-

Table 9.5.1M-ISTs(b) shows that all types of thematic progression feature in Masaki's essays. There is a clear, gradual increase in the amount of simple linear progression used (26% of the maximum number of links in M-IST1, 28% in M-IST2, 47% in M-IST3, 57% in M-IST4 and 54% in M-IST5) which indicates progress in thematic development, with a slight dip in the last task. Also, there is an improvement in sequence length which further indicates progress in thematic development. The ratios of constant to simple linear progression decrease substantially in the later essays, from 4:5 in both M-IST1 and M-IST2 to 1:7 and 1:4 in M-IST3 and M-IST4 respectively showing again an improvement in thematic development. However, there is an increase to 4:7 in M-IST5 due to repetition of the same Theme, genetics and genetic engineering, over three consecutive T-units.

Some use is made of progression taken up in the Rheme (op) which supports thematic continuity so that there is an increase in the use of all three types of progression combined (all p) with 74% in M-IST1, 67% in M-IST2 and M-IST3, 87% in M-IST4 and 92% in M-IST5. Also there are longer sequences in the last two essays than in the earlier essays: in M-IST4 (one over 10 consecutive links) and in M-IST5 (one over 9 and one over 3 consecutive links). Both factors indicate an increase in

thematic linking.

Split progression is a feature of all the essays apart from M-IST5, being particularly frequent in M-IST1 where there are 4 cases in all. It is best used in M-IST4 where the long complex sequence develops H(b) very effectively and occupies almost half of the total number of T-units, thus contributing to the high Organisation mark.

The absence of isolated T-units is a particularly strong point in Masaki's essays except for M-IST2 where there are 3 isolated T-units.

The distribution of information in the T-unit

Table 9.5.1M-ISTs(c): distribution and acceptability of information in the Theme and Rheme

	M-IST1 (20)			M-IST2 (19)			M-IST3 (16)			M-IST4 (15)			M-IST5 (14)		
	Total	/	x	Total	/	x	Total	/	x	Total	/	x	Total	/	x
NI-Th	6	4	2	7	7	0	8	7	1	4	4	0	3	3	0
NI-Rh	16	11	5	16	15	1	13	10	3	15	15	0	14	13	1
E-Th	1	1	0	2	2	0	0	0	0	0	0	0	0	0	0
E-Rh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 9.5.1M-ISTs(c) shows an increase in the occurrence of new information in the Theme in the first three M-ISTs: 30% of the total number of T-units in M-IST1, 37% in M-IST2 and 50% in M-IST3), thus hindering smooth thematic continuity. But in the last two essays there is a substantial decrease to 25% in M-IST4 and to 21% in M-IST5 thus indicating an overall, clear improvement in allowing thematic development. There is also an early improvement in acceptability. Only 3 out of 27 occurrences are found unacceptable, none of them occurring after M-IST3.

NI in the Rheme occurs very frequently in all the M-ISTs. In the last two essays it occurs in every T-unit which also indicates progress in developing the essay. There is also an improvement in the acceptable cases of NI in the Rheme; in relation to the total number of T-units, 55% are found acceptable in M-IST1, rising to 79% in M-IST2, dropping to 63% in M-IST3, then rising to 100% in M-IST4 and dropping slightly to 93% in M-IST5.

There are very few uses of the empty Theme and none of the empty Rheme which facilitates thematic continuity.

9.5.2 Cohesion

Table 9.5.2M-ISTs: key cohesive features in relation to the number of T-units

	M-IST1 (20)			M-IST2 (19)			M-IST3 (16)			M-IST4 (15)			M-IST5 (14)			T
Feature	Total	/	x	Total	/	x	Total	/	x	Total	/	x	Total	/	x	
CA	0	0	0	2	1	1	3	3	0	3	3	0	8	7	1	16
C	7	7	0	7	5	2	8	8	0	5	5	0	6	5	1	33
AR	13	10	3	6	6	0	8	7	1	9	9	0	8	7	1	44

Table 9.5.2M-ISTs shows a gradual increase in the use of circumstantial adjuncts as Theme. There are none in M-IST1 where the Content mark is low. In M-IST2 to M-IST4 they are used very infrequently: 5%, 19% and 20% respectively. However, in M-IST5 there is a dramatic increase in their use to 57% which indicates progress because they provide structural and thematic variety and enhance cohesion. Almost all are judged acceptable.

The frequency in the use of conjunctives and other adjuncts in the Theme fluctuates across the essays with an increase from 35% in M-IST1 to 50% in M-IST3, dropping sharply to 31% in M-IST4 and increasing to 43% in M-IST5. Of a total of 33 Cs only 3 are judged unacceptable which means that they are generally helpful to cohesion between T-units.

Anaphoric references are used most frequently in M-IST1, 65% in relation to the total number of T-units, and least frequently in M-IST2, 32%, after which there is gradual increase: 50% in M-IST3, 56% in M-IST4 and 57% in M-IST5. After M-IST1, where 3/13 ARs are judged unacceptable, the profile of the frequency of use of ARs is very similar to the profile of acceptable uses. For the four remaining essays, of a total of 31 ARs, only 2 are judged unacceptable. In M-IST2 and M-IST4, all uses of ARs are judged acceptable, the more frequent being in M-IST4, which shows progress and probably contributes to the high Organisation mark for M-IST4.

9.5.3 Lexicogrammatical features

Table 9.5.3M-ISTs: nominalisation and passive verb forms

	M-IST1 (20)			M-IST2 (19)			M-IST3 (16)			M-IST4 (15)			M-IST5 (14)		
Feature	Total	/	x	Total	/	x	Total	/	x	Total	/	x	Total	/	x
SNom	8	8	0	14	14	0	12	11	1	16	16	0	12	12	0
CNom	4	3	1	1	1	0	0	0	0	1	0	1	0	0	0
PV	2	2	0	9	8	1	12	12	0	6	5	1	7	6	1

Table 9.5.3M-ISTs shows that the frequency of use of simple nominalisations increases across the tasks. In M-IST1 it is 40% in relation to the total number of T-units, with dramatic increases to 74%, 75% and 100% in M-IST2, M-IST3 and M-IST4 respectively, but dropping a little to 86% in M-IST5. The low Language mark (2.25) in M-IST1 is partly explained by overloading the Theme through the use of long nominalisations, whether simple or complex. For example the essay begins with a long, complex nominalisation in the Theme of T-unit 1 followed by another CNom in the Rheme, In the following example square brackets [] to identify each nominalisation thus showing how a simple nominalisation is embedded within a complex nominalisation:

T1)Discussing the advantages and disadvantages of [using the wind turbine as [means of supplying energy]] (R1)would lead to [comparing the wind turbine with [other means of supplying energy]

Nevertheless, acceptability of SNoms is very high: 61 of the total 62 being considered acceptable. In addition, across the tasks, they are used with greater appropriateness, becoming shorter and thus not causing information overload when used in the Theme. This contributes to Masaki's highest Language mark in M-IST5. The use of CNoms is limited: 6 in all with 5 of these being in the first two essays and 2/6 overall being judged unacceptable.

Masaki's use of passive verb forms starts at a very low level in M-IST1 at 10% in relation to the total number of T-units, rising to 47% and 75% in M-IST2 and M-IST3 respectively, then dropping sharply to 38% in M-IST4 and rising to 50% in M-IST5. Of a total of 36 PVs used, only 3 are considered unacceptable. The most frequent use is in M-IST3 (12), probably because of the technical genre used to explain Newton's laws: the kind of writing not emulated in Masaki's other essays.

9.5.4 Summary of Masaki's progress and change in his five essays

In summary, Masaki has made some progress as shown by his marks. The areas where there is evidence of progress across the essays are:

Content – in relevance, coverage and substance through:

- more comprehensive and substantial coverage of the task instruction,,
- longer sequencing of simple linear progression and more occurrences of new information in the Rheme giving better thematic development,
- more frequent simple linear progression in relation to constant progression also allowing more thematic development,
- more frequent and longer sequencing of all types of progression in combination giving more thematic continuity,
- more use of circumstantial adjuncts giving greater thematic variety.

Organisation – in textual cohesion through:

- more complex use of well-structured split progression,
- fewer occurrences of new information in the Theme and of unacceptable new information in the Theme thus enhancing thematic continuity,
- more occurrences and more acceptable occurrences of new information in the Rheme leading on from given information in the Theme,
- disappearance of information overload in the Theme,
- more frequent uses of acceptable circumstantial adjuncts and acceptable anaphoric references,
- better connected discourse.

Language – in linguistic complexity and range of structure through:

- more appropriate nominalisations due to including less density of information,
- more frequent uses of simple nominalisations,
- more frequent uses of acceptable passive verb forms.

9.6 Masaki's progress and change in terms of his approach to all the ISTs

Masaki's progress is examined through his comments in the post-task interviews and his micro-task notes. First it is briefly discussed in terms of the approaches he adopted to address each IST, task by task, and then a comparison is made across all the ISTs. Further details about his approach to each IST are given in Appendix A-9.(1.5).

9.6.1 Masaki's progress in each IST

M-IST1

OI	C	O	L
2.50	2.75	2.75	2.25

In his comments during the interviews, Masaki was modest about his competence in using English. He worked cautiously and deliberately, not taking any risks. It seems that through his deep approach he was able to prioritise the most important aspects of the task: e.g. the organisation of content that was relevant to the task instruction, as demonstrated by his use of hyperthemes and split progression, and the safe use of complex nominalisations taken from the task instruction.

Although interested in the topic, Masaki's comments, notes and essay text indicate that he had not been able to show his full potential in this essay, probably because he had not been able to organise his time in this first task. He seems to have worked very systematically by using an economical referencing system. He said that he would have liked 'another 30 minutes' to think and write and it is possible that in this time he might have been able to refine the expression of his ideas.

His comments suggest that he thought he could write a good essay because he reflected with hindsight on how he could strategically have managed the task better: concentrating on the main points and not worrying about the details because of the problems he identified 'with writing English and reading // very quickly.' He said that he was working on them but: 'At the moment I need a lot of time to understand the task, and how I could do such a thing.'

M-IST2

OI	C	O	L
3.25	3.50	3.25	3.25

Masaki's comments suggests that he adopted a deep, holistic approach. It was holistic in that he seemed to have thought about how he could address IST2, perhaps because his experience of doing IST1 had enhanced his knowledge of his own ability. His comments and notes show that he had been able to make informed choices about how to address each step of the task so that he could work on improving his written product.

Thus it appears that Masaki had been able to organise his time more efficiently in this task, first focusing on the content, then organising the content and finally expressing it in writing. The fact that his essay is organised in two hyperthemes that directly relate to the task instruction suggests that Masaki retained a focus on the task instruction above all. But the fact that his essay fluctuates in the amount of detail it contains seems to correlate with the detailed documentary information on the chemists' work that Masaki had noted in contrast to his points about the causes and effects of pollution, which is more general.

Comparing his final draft with his essay, both are very similar up to T-unit 15. Then in his draft there follows one sentence which becomes T-unit 18 in his essay. This suggests that he was not sure how to conclude his essay and had thought in advance of only one sentence. It appears that he added the short paragraph (P4) on observing the ecology of the river without preparation, i.e. T-units 16 and 17, and also the final concluding sentence, T-unit 19. If this is the case, it would explain the weaknesses in thematic linking and the general nature of the content in these two final paragraphs. This could mean

that he needed to resort to a surface approach at the end and was unable to attend fully to conveying his meaning.

M-IST3

OI	C	O	L
3.25	3.25	3.25	3.25

Masaki used a similar approach to doing IST3 as he did for IST2. By this time, his deep, holistic approach was probably becoming more automatic. During the interview his comments were mainly about making sense of the content in relation to ‘the concept of thrust’. It appears that he focused very strongly on this throughout the task which might explain why there is too much, sometimes irrelevant, technical detail causing occasional overload in the Theme and Rheme.

Masaki had, in the interview after doing IST1, mentioned his concern with working slowly and finding the right expression. This time, it appears that he strategically allowed considerable time for preparing the writing of his essay but was unable to finish his essay satisfactorily. Perhaps he was still trying to compensate for the problems he had experienced in IST1 of being short of time. It is interesting that his marks show no improvement over M-IST2 but that the Content mark is lower. However, this time there is complete integration of Content, Organisation and Language since all his marks are the same. Thus, it appears that his strengths and weaknesses were balanced against one another.

He seems to have selected certain skills that he felt confident would be effective. He also regulated his behaviour according to this self-knowledge in relation to the task demands, particularly with respect to time organisation and, as in M-IST2, in concentrating on linguistic expression by writing a short draft followed by a longer draft, that was very similar to T-units 1-14 of his final essay.

M-IST4

OI	C	O	L
3.75	3.50	4.00	3.50

Masaki seems to have approached this task in a similar way to IST3 but this time, according his marks, his performance was much better. Perhaps he was able to draw on previous experience and refine the ways he was working. As in all the tasks, it appears that he had concentrated on making sense of the content and thinking quite hard about the task instruction. His notes for M-IST4 reveal a very systematic approach by beginning with gaining familiarity with the content, then noting relevant points from the documentary to fit his outline plan, restricting his time spent reading the text and moving on to spending as much time as possible writing a draft. Perhaps the concerns he had mentioned after M-IST1 about needing time to write were still in his mind.

His systematic approach seems to be reflected in his mark for Organisation. His essay is quite short but it reveals that he had been able to address both parts of the instruction reasonably well in this respect. Had his essay been longer and contained more detail, he might have been able to obtain a higher mark for Content. His comments suggest that he could have done better. Nevertheless, his Content mark is better than for M-IST3 by 0.25. It is possible that he needed the time to express his points clearly and had to think about how best to present them and that if he could put into writing his clear ideas more quickly he would be able to spend some time expanding on his ideas.

However, improvements are evident. The thematic organisation of his essay as a whole and in its

parts shows clear progress. His use of cohesive markers in M-IST4 are better than in previous tasks.

It seems that Masaki did not resort to surface, atomistic behaviour in doing IST4. He consistently adopted the same holistic approach, probably having repeatedly reflected on how he could best deal with the task demands in relation to self-knowledge and his perceptions of his learning style and abilities. Through this enhanced self-knowledge his behaviour was more strategic and this probably enabled him to retain his control over his performance. He used the same automated skills that had helped him in previous ISTs and he seemed able to foresee possible problems and compensate for any weaknesses by combining previous knowledge with the information input. If he had been able write down his organised thoughts more quickly in this task, his range of expression and vocabulary might have been wider and his mark for Language higher. Nevertheless, as with the Content mark, he had improved by 0.25 in M-IST4 which shows progress.

M-IST5

OI	C	O	L
3.50	3.25	3.50	3.75

Although he was at a disadvantage in not having any knowledge about the topic, for this last IST Masaki had been able to write a well-connected essay probably by saving time through not attempting to understand the text in detail since he found it difficult. So he was able to spend more time writing the essay in draft. This shows that he had made progress in his working. He had been able to work more efficiently even though he had to tackle a topic that he knew very little about.

It appears that he had used his time very profitably because the content of his essay is well organised and contains many relevant points, sometimes supported with details. Also there were fewer instances of poor semantic linking in introducing more new information than before.

The fact that he knew very little about the topic in advance could explain why his essay was highly descriptive. He was learning and informing at the same time which was a considerable achievement.

9.6.2 A Comparison of the approaches adopted by Masaki across the five ISTs

A summary of the approaches used by Masaki is presented in Tables 9.6.2M-ISTs(i), (ii) and (iii) below.

Table 9.6.2M-ISTs(i): Summary of the deep approaches used by Masaki in the ISTs

DEEP	IST	1	2	3	4	5	Total
holistic	a	/	-	/	/	/	4
	b	/	/	-	/	-	3
	c	-	-	-	-	-	0
reflective	a	/	-	-	-	-	1
	b	-	-	-	/	/	0
Total		3	1	1	3	2	10

Table 9.6.2M-ISTs(ii): Summary of the strategic approaches used by Masaki in the ISTs

STRATEGIC	IST	1	2	3	4	5	Total
analytical	a	/	-	/	/	/	4
	b	-	-	-	-	-	0
skill-oriented	a	/	-	/	/	/	4
	b	-	-	/	/	/	3
	c	-	-	/	/	/	3
self-regulation	a	-	-	-	-	-	0
	b	-	/	-	-	-	/
	c	-	-	/	/	/	3
controlled risk-taking	a	-	-	-	-	-	0
	b	-	-	-	-	-	0
selective	a	-	-	-	-	-	0
	b	-	-	-	-	-	0
compensatory	a	/	-	-	-	-	1
	b	-	-	/	/	-	2
	c	-	-	/	-	/	1
coping	a	/	-	-	-	-	1
	b	-	-	-	-	-	0
	c	-	/	-	-	-	1
Total		4	3	6	6	5	24

Table 9.6.2M-ISTs(iii): Summary of the surface approaches used by Masaki in the ISTs

SURFACE	IST	1	2	3	4	5	Total
atomistic prioritising	a	-	-	-	-	-	0
	b	/	-	-	-	-	1
atomistic quick-fixing	a	-	/	/	-	-	2
	b	-	-	-	-	-	0
uncontrolled risk-taking	a	-	-	-	-	-	0
Total		1	1	1	0	0	3

Tables 9.6.2M-ISTs(i), (ii) and (iii) show that the approaches Masaki used were predominantly types of strategic approach: 24 instances compared to 10 instances of deep approaches and 3 instances of surface approaches. He adopted the same four types of strategic approach in ISTs1,3,4,5 but different ones for addressing IST2. He seems to have approached each IST systematically, adopting the same two holistic, deep approaches in some ISTs and the same reflective deep approach towards the end of the programme. He adopted surface approaches only in three instances in the early part of the course.

Table 9.6.2M-ISTs(iv) below provides a more detailed description of the approaches adopted by Masaki.

It shows that shows that the two holistic deep approaches that Masaki adopted in several ISTs were: seeking to conceptualise the task demands as a whole, and seeking to understand his own ability in relation to the task demands. These were probably very helpful for his progress and for selecting appropriate types of strategic approach, particularly the skills-oriented strategic approach of closely following the task procedure as advised in each task, consulting dictionaries, and making extensive notes to help his comprehension and to improve his expression. He also critically monitored his work.

Masaki's comments about M-IST1 indicate that he used a compensatory strategic approach to improve his English by drawing on a practiced style of working because he said: 'I'm trying to write down in English very quickly'.

Table 9.6.2M-ISTs(iv): Details of the approaches used by Masaki in the five ISTs

Approach	Type	Features of the approaches in the context of the ISTs	IST
deep	hol	(a) seeking to conceptualise task demands through retaining a central focus on task instruction and focusing on meaning and relevance, thinking about and developing understanding of the topic and retaining a focus on the essay as product	1,3,4,5
		(b) seeking to understand self-ability in relation to task demands	1,2,4
	ref	(a) critiquing self-performance	1
		(b) critiquing task demands in relation to self-ability and long-term interests through evaluating information input in relation to task instruction and self-ability	4,5
strategic	analy sk-or	(a) analysing task instruction and planning essay	1,3,4,5
		(a) closely following advice and instructions given about task procedure through systematically working on each step	1,3,4,5
		(b) consulting dictionaries to help understand instruction and topic	3,4,5
		(c) making extensive notes through rewriting drafts of essay to improve language use for final product	3,4,5
	self-r	(b) balancing input with output processing	2
		(c) seeking to improve performance through self-monitoring	2,3,4
	comp	(a) using familiar learning style through automatic transfer	1
		(b) using previous knowledge to compensate for lack of comprehension	3,4
		(c) focusing on comprehensible input for managing the task	5
	cop	(a) selectively ignoring unfamiliar challenges to cope with pressing demands	1
		(c) focusing on the goal of producing a completed essay	2
surface	at-pri	(b) prioritising one aspect of the task at the expense of another e.g. prioritising process over product	1
	ato-qf	(a) addressing dominant concerns regardless of priority e.g. untimely switching from focus on content to focus on expressing content	2,3

Masaki's notes and comments reveal that he prioritised preparing the essay above writing it which suggests that he was not able to find strategic approaches that would help him complete the task properly and so, as his choice of approaches showed, he had to resort to an atomist-prioritising surface approach to finish the essay. Nevertheless, his comments in the interview suggest that he was reflectively self-critical and this may have helped him improve. In IST2 he seems to have prioritised organising his time so that he could concentrate more on expression with the end-product in mind thus adopting a self-regulatory strategic approach of balancing input with output processing. His notes for all the other M-ISTs suggest that he carefully planned and systematically revised his plan of the essay. Thus, having achieved a means of writing in connected discourse he was probably able to refine his working, having developed the use of effective types of strategic approach during the last three ISTs: using the dictionaries for better comprehension and writing and refining essay drafts.

It seems that Masaki developed a concern to understand and interpret the content of each IST as he became more familiar with the task demands in the later ISTs. In IST3 he appears to have begun to think more deeply about the content. For example, about the meaning of 'thrust' in IST3 he said:

I thought it was was er quite abstract mean meaning because er instruction mentions about the concept of thrust important to man mankind.

He was particularly enthusiastic about the topic 'Space' saying: 'because this subject of task is invalued', which probably meant that he thought it was very important. Similarly, about Darwin's

theory in IST4 he said:

I think one great achievements of the theory is er is to change our mental activity especially er theological view to very objective view, scientific view.

Here he may have been using his prior knowledge to critique the content as a compensatory strategic approach. Nevertheless, he seems to have had better control over his performance in M-IST4 than in all the other tasks by seeking to monitor his progress through self-regulation, having started doing so for M-IST2.

9.7 Conclusions

Having examined Masaki’s progress through three aspects of his performances: his marks according to the assessment criteria, the text analysis of his essays and his approaches to the ISTs, these are now examined as integral parts of his whole progress within the task-based course. Tentative comments are made about possible links between his approaches to the tasks and his performances in his essays with reference to his marks and to the text analysis.

<i>Content:</i>	M-IST1	M-IST2	M-IST3	M-IST4	M-IST5
	2.75	3.50	3.25	3.50	3.25

In Content Masaki’s marks show that the main progress he made was at the beginning of the course. But the text analysis of his essays reveals differences in content not reflected in the marks. For example, his use of hyperthemes were best in M-IST1 and M-IST4. For both these essays he adopted more types of deep approach than he did for the other essays, while, in IST2 and IST3, resorting to an atomistic quick-fixing surface type of approach. As his comments suggest, in IST3, he may have had problems with relevance because of the complexity of the content in relation to the task instruction. After M-IST3, there is an improvement in comprehensiveness and relevance in both M-IST4 and M-IST5, when he was using the same practised types of deep and strategic approaches and no types of surface approach. He repeatedly consulted dictionaries and made extensive notes in those last essays. In M-IST5, there is longer sequencing of thematic progression and more use of circumstantial adjuncts which suggests that his strategic approach of writing the essay in draft may have helped his progress. But, although all the content was relevant, he seems to have had problems understanding it in depth as shown by the limited coverage developed through the three hyperthemes and the brevity of the essay.

<i>Organisation:</i>	M-IST1	M-IST2	M-IST3	M-IST4	M-IST5
	2.75	3.25	3.25	4.00	3.50

Masaki’s marks show excellent progress in Organisation although M-IST5 is not rated as highly as M-IST4. In M-IST2, his notes and comments suggest that he may have given more attention to the final product than he had in M-IST1 so that the improvements he made in hyperthematic organisation might be attributable to better self-regulation in balancing input with output processing. He was able to

develop main points, sometimes supporting them with important details. Strengths in textual organisation throughout are due more to the use of hypertheme than to thematic progression at the inter-T-unit level. This might be because of his holistic, deep approach of overviewing the content in relation to the task instruction. However, his strategic approach of planning and systematically revising his plan of his essay in almost all the ISTs might explain his clear progress in connected discourse, in the acceptability and positioning of new information in the Rheme and in the use of cohesive devices: a better variety of thematic conjunctives and other adjuncts. Whereas in the early essays there was a tendency to overload the Theme, this did not happen in the later essays even though, in terms of the average number of words per T-unit, T-units were longer from M-IST3 onwards.

<i>Language:</i>	M-IST1	M-IST2	M-IST3	M-IST4	M-IST5
	2.25	3.25	3.25	3.50	3.75

Masaki's comments and micro-task notes suggest that his main concern was with expression and his marks show that he made steady progress in Language, his highest mark being in M-IST5. One reason for his low mark in M-IST1 is his limited range of language due to the lack of connected discourse in his essay. This could be linked to his atomistic prioritising surface approach of selecting content items and organising them at the expense of language. In addressing IST2, he appears to have attended more to how to improve his performance by focusing more strategically on writing in connected discourse than he did in M-IST1 which could explain how the improvements he made in Organisation are also reflected in Language. All his essays reveal a sense of writing in a scientific genre but there is evidence of clear improvement by the end in his use of nominalisation. The lengthy nominalisations in M-IST1 and M-IST2, causing problems with the distribution of information in the Theme, are replaced in M-IST3, M-IST4 and M-IST5 by shorter and more appropriate nominalisations. Even though M-IST3 has the highest average number of words per T-unit, the longer nominalisations in this essay do not contain as much dense information as those in his earlier essays. In these last three M-ISTs there is also more flexibility in the use of grammatical patterns. The strategic approaches he seems to have developed during the last three ISTs may have been probably very helpful for these aspects of his writing: i.e. using the dictionaries for better comprehension, allowing time for developing his extensive notes into a coherent essay and refining essay drafts.

<i>Overall Impression:</i>	M-IST1	M-IST2	M-IST3	M-IST4	M-IST5
	2.50	3.25	3.25	3.75	3.50

Masaki's marks for M-IST2 onwards show a clear improvement in his performance over M-IST1. As already mentioned, this was mainly because of the shift from writing M-IST1 in only partly connected discourse to writing the remaining essays entirely in connected discourse. This partly explains why M-IST1 has the highest number of T-units but the lowest average number of words per T-unit. However, the problems that emerged in M-IST2 were those of hyperthematic distribution of information, which was not well-balanced, and thematic overload which may be due to Masaki's focus on producing a completed essay and sometimes resorting to an atomistic prioritising surface approach thus losing sight of the overview of the essay. The same thing may have happened in addressing IST3, where, however,

the complete convergence of the Content, Organisation and Language marks, almost achieved in M-IST2, is achieved which suggests that Masaki succeeded in writing a well-balanced essay but had problems addressing the task instruction. Hence the overall mark of 3.25 is not high because of weaknesses in cohesion and compressed information within much longer than average T-units.

After M-IST3 Masaki did not use any more surface approaches, and M-IST4, his best essay, shows very clear progress, particularly in the organisation and selection of hyperthemes and thematic distribution within the T-unit. This essay also indicates that, despite finding the topic difficult, Masaki gained an enhanced understanding of it while working on the task. But IST5 was about another unfamiliar topic for him, which could explain why M-IST5 is his shortest essay with the mark for Content being lowest. It is not as well focused as M-IST4 although he progressed in using some features, circumstantial adjuncts as Theme and passive verb forms, probably through adopting helpful strategic approaches.

9.8 Closing Comments

Masaki moved up from within Band 2 to within Band 3 at the end of the course, where it could be predicted that his use of English 'may facilitate academic success at undergraduate level'. His responses to the course highlight aspects of progress, which were not fully reflected in the assessment marks. The textual analysis reveals more about the nature of this progress and the approaches he adopted reveal what underlay this progress. They show that he appeared to be constantly and self-critically looking for ways to improve his working. For example, after IST1 he said: 'I have trouble with writing English and reading very quickly in English and em I'm trying to read em some books'.

He appeared to learn from all his experiences of each IST session so that he could apply an increasingly enhanced knowledge of his own strengths and weaknesses to each subsequent IST, attempting to capitalise on his strengths as revealed in his sense of textual organisation through the use of Hypertheme. He also adopted compensatory and coping strategic approaches to discover how better to organise his time and to overcome difficulties with understanding the information input and with his own limited knowledge.

His keen interest in physics, and scientific matters in general, was evident throughout the course. For example he said that the text for IST3 was interesting:

'especially er I'm interested in // how the electric signals is transmitted by satellite // so er by the transmitting the signals by satellite // human could get lot more information around the world, em, I thought it // great development er of media.'

Although his marks are still only within Band 3 at the end of the course, Masaki's fourth essay, M-IST4, in terms of the textual analysis and the approaches he adopted, reveals more than does M-IST5 about his potential to reach a higher level. He was a steady worker who sought to produce a high standard of work for his own satisfaction and who had discovered deep and strategic approaches that helped him to enhance his awareness of how to further his own progress outside the course.

THE PROFILE OF TAKAKO'S PROGRESS ACROSS THE FIVE ISTS OF THE COURSE

10.1 Introduction

Takako was a 24-year old graduate of philosophy from Waseda University, Tokyo. She had decided to study further in England because she thought that women in Japan had too few career opportunities. She was very keen to study physics to understand the philosophy of science but had not studied science since she was fourteen.

When she embarked on the pre-university programme her English was equivalent to an IELTS score of 4.5, which meant that it was quite weak. She had considerable difficulty communicating in any depth and often resorted to Japanese. But her survival English improved quickly because she constantly questioned what was going on around her. She was a friendly, charming and excitable extrovert with a strong sense of curiosity.

She encountered some isolation because her colleagues were much younger. She was very conscientious and frequently sought help especially with physics, which she found particularly difficult. She sometimes seemed to reach saturation point and became quite tired.

10.2 Takako's Essays

Starting on the next page are the transcripts of the five essays that Takako wrote for the Integrated Skills Tasks.

T-IST1

Discuss the advantages and disadvantages of the wind turbine as a means of supplying energy in the future. Compare it with other means of supplying energy.

	What is the main source of energy in the future?
S1	<p>(T1)Today (R1)wind turbines are an increasingly important source of power. (T2)About 20% Britains' electricity (R2)can be produced from the wind. </p> <p>(T3)The wind itself (R3)is free (T4)and . the electricity produced by a wind turbine (R4)costs between 2p and 5p per unit depending on how windy the site is. (T5)But they (R5)need to be placed on windy sites and manufacture in large numbers grouped together in one area. to give good venefits. </p> <p>(T6)It (R6)means that they are cheap to run but are expensive to set up, (T7)It (R7)is only useful for windy country like Britain. (T8)Wind turbines (R8)don't pollute the environment with harmful chemicals. </p>
S2	<p>(T9)We (R9)use the power of nature transformed the energy such as sun, which supply solar energy, the rain water, heat and coal - gas, oil. (T10)But they (R10)have limit of energy. </p> <p>(T11)The high energy (R11)needs high temperature. </p> <p>(T12)We (R12)make electricity as the source of energy. </p> <p>(T13)Electricity (R13)is the source of everything. </p> <p>(T14)Without electricity, (R14)it would not be impossible to develop such a huge civilisation. </p> <p>(T15)Thanks to electricity (R15)we can get such a comfortable life. </p> <p>(T16)Our advanced technology (R16)made us what we are today. </p>
S3	<p>(T17)I(R17)'d like to compare wave energy with wind energy. </p> <p>(T18)This video (R18)said that wave energy is the source of energy they are looking for. (T19)At the wave power station (R19)wave can convert the energy into another form, (T20)Wave (R20)moves up and down like a electricity (T21)Researcher (R21)investigate the movement of wave which rise and fall by operating. (diagram)</p> <p>(T22)It (R22)generate electricity and gets the power. </p> <p>(T23)It (R23)is very strong (T24)but research of wave power (R24)is ineconomic. (T25)On top of that wave (R25)has complex pattern. (T26)Therefore we (R26)get confused. </p> <p>(T27)On the other hand they (R27)need the high pressure to produce electricity. </p> <p>(T28)It (R28)is really difficut to transfer wave energy into electricity </p>
S4	<p>(T29)But wind energy (R29)is rediscovered. </p> <p>(T30)It (R30)has the large possibilitis as the source of energy in the future. (T31)Since 1980 (R31)a number of wind turbins have been built, (T32)for instance in America (R32)100m wind turbines wave made by NASA Turbins is three times big, (T33)it (R33)becomes ten times powerful. </p> <p>(T34)When wind comes faster, (R34)energy is stronger. </p> <p>(T35)Therefore, it (R35)is a large energy source </p>
S5	<p>(T36)We (R36)use the power of nature for our great benefit.</p> <p>using power supply such a wind turbins. </p>

T-IST2

With reference to the video documentary 'Chemists at Work' and the text 'Water', describe the causes and effects of water pollution. Discuss how the chemist can help to improve the situation.

	how the chemist can help to improve the situation
S1	<p>(T1)Water (R1)is the most important substance for human </p> <p>(T2)Without it (R2)we cannot live (T3)and there (R3)is no living things </p> <p>(T4)80% of our body (R4)is water. </p> <p>(T5)Our daily life (R5)begins to drink a cup of water (T6)and we (R6)drink more than 1 litre of water in one day </p>
S2	<p>(T7)The water (R7)has a big influence on mental and physical aspect of human </p> <p>(T8)We (R8)are very serious about whether the water is clean or not. </p> <p>(T9)Therefore we (R9)are sometimes careful not to drink water in the city and buy natural mineral water. </p> <p>(T10)As far as I am concerned. (R10)I usually use natural mineral water for drinking and cooking. </p> <p>(T11)Because in London, especially in big city – (R11)water is not clean and there are a lot of chemical substance to kill the bacteria. (T12)These chemicals (R12)sometimes would harm our health. </p>
S3	<p>(T13)How water polluted (R13)are improved? </p> <p>(T14)The water provided from the river (R14)contained the bacteria. </p> <p>(T15)These (R15)caused disease and death. (T16)These effects (R16)were made us think that the problems caused by polluted water were serious. </p> <p>(T17)Because of people's fear; (R17)government and Water companies built new sewers to separate waste from the fresh water supply. </p> <p>(T18)Since then (R18)many water supplies were built, (T19) for instance, under the overall control of the Department of the Environment (R18)water was controlled. (T20)In 1989, (R20)Water Act set up the Drinking Water inspectorate to regulate its quality of its water. </p> <p>(T21)National Rivers Authority (R21)regulate the quality of waste water when it enters rivers or the sea in order to protect the water enviroment. (T22)Government (R22)gave £1.6 billion to help with enviromental improvements. </p> <p>(T23)Like these example, (R23)we are very careful about the effect of water </p> <p>(T24)In background of government and companies, (R24)the research and test for improving water is needed as a matter of course </p> <p>(T25)These (R25)has been done by chemists. </p>
S4	<p>T26)How chemists (R26)can help to improve the situation? </p> <p>(T27)They (R27)make variety efforts to make pure water to fit to drink. </p> <p>(T28)To investigate quality of water (R28)they test and research using computer system. (T29)In the laboratory (R29)they analyse the different substances in water with modern advanced machine which can catch different substances. </p> <p>(T30)These computer (R30)are organised to test as indicators. </p> <p>(T31)Chemist (R31)distinguish substances with changing colourness. </p> <p>(T32)They (R32)check chloride, nitrate and hardness. </p> <p>(T33)And they (R33)require results for whole range of application, for example, using 1 piece of substance to put one pule. </p> <p>(T34)They (R34)record the results for regular sample </p> <p>(T35)They (R35)use a different machine for researching. (diagram:organise routine)</p> <p>(diagram:gas chromatograph) (diagram: massspectrometer) (diagram:deta) (diagram:atomic absorbtion)</p> <p>(T36)In many ways. (R36)chemists examine different polluted substance. </p> <p>(T37)How safety the water is for drinking (R37)is the most important task for chemists. (T38)we</p> <p>(R38)can now drink without so much worries for water thanks to chemists. </p>

T-IST3

Concerning the use of satellites in space, why is the concept of thrust important to mankind? Discuss this with reference to the progress made between 1980 and 1991 using the video documentary 'Newton and the Shuttle' (1983) and the text 'Eye in the Sky' (1991).

P1	(T1)I (R1)would like to discuss the importance of satellite and how satellite gets progress at the moment. (T2)Satellite (R2)is necessary for our life to know how the weather, land and sea are changing. (T3)It (R3)can transmit to us as signal about the conditions (T4)So far (R4)4,000 satellite have been sent into space. (T5)1991 (R5)Europe has launched into space one of the most advanced satellite. (T6)ERS-1 (R6)could observe comprehensively. (T7)In detail, satellite (R7)are important in forecasting the weather. (T8)The records from satellite (R8)make farmers to plan their harvests and make sure that ships can avoid storms at sea. (T9)Many weather satellites (R9)use the same orbits in order to catch the proper records regularly. (T10)For instance the greenhouse effect, changes of the ozone layer and temperature of the atmosphere (R10)can be observed by satellite.
P2	(T11)Many satellites (R11)has launched incorporating in many advanced country, all over the world so far. (T12)Satellite (R12)is one of the most technological device. (T13)It (R13)shows us that our vision is not only from the land "earth" but space. (T14)This (R14)caused global change for us. (T15)Our point of view and thinking (R15)has been expanding to vast unlimite space "universe". (T16)Human (R16)are affected from the atmosphere surrounding the earth. (T17)We (R17)can make progress towards the space.
P3	(T18)Scientists (R18)could get the information which is necessary for us to live from satellite. (T19)NASA (R19)has first built satellite in 1980. (T20)Hundreds enginers and scientists (R20)took parts in the competition of satellite. (T21)They (R21)experienced many times in order to know what it looked like in space. (T22)Sometimes they (R22)used a huge water tank. (T23)Controlling equipments and computers in the shuttle (R23)are very difficult and complicated. (T24)200 years ago, (R24)Newton wanted to lunch the shuttle (T25)but he (R25)could never do because of his thought 'gravity'. (T26)According to the theory of gravity (R26)the shuttle needs a huge amount of energy to be against the gravity. (T27)He (R27)thought shuttle was like a gun. (T28)Shuttle (R28)needs enough fire to get moving. (diagram)
P4	(T29)Satellite (R29)is moving 300000km per hour (T30)and acceleration (R30)is increasing. (T31)Satellite (R31)moves like a gently curve. (T32)After two minutes it (R32)keeps accelerating until mass disappear. (diagram) (T33)To keep moving in the orbit (R33)the engine is adjusted to satellite. (diagram)
P5	(T34)Satellite (R34)are man made device orbiting around the earth above 780km transmitting to earth many scientific information. (T35)Nowadays. we (R35)can watch the satellite television to get the international news quickly. (T36)For the reason of good programmes and clear vision, (R36)many people enjoy the satellite television as well as the newspaper. (T37)For the foreigners who live in another country (R37)satellite newspaper give us the new information soon. (T38)It (R38)is very helpful and useful. (diagram)
P6	(T39)From the moment (R39)the government should pay much more attention to the space and give a lot of money for it. (T40)Scientist (R40)is searching for the rays which the universe transmit (T41)although it (R41)is not visible. (T42)But Xrays. Beta rays. cosmic rays which are magnetic ways (R42)are very useful to inquire into the atomic structure. (T43)Therefore we (R43)must be more keen to the investigation of the space. (T44)If something new are discovered, (R44)it would become a global transformation of the earth.

T-IST4

Describe Darwin's theory of evolution. Discuss how it has contributed to further knowledge and change.

P1	(T1)Darwin's theory of evolution (R1)is the theory which is widely accepted nowadays (T2)and most of the people (R2)believe without doubt. (T3)It (R3)is very rare that such a lot of people support the same thought. (T4)The reason why it is very successive theory (R4)is that Darwin's theory is very well explained about the origin of living things e.g. from where human being has come or how we evolved with two legs, we had one body .. (T5)All organisms (R5)were excellent made. (T6)We (R6)are perfect to live.
P2	(T7)Charles Darwin (R7)wondered why so many different kind of animals and plants exist and behave different ways. (T8)But all living things (R8)fit their surrounding. (T9)If we study animals in detail. (R9)we see they are fighting to survive. (T10)But the animals which are suitable (R10)are alive (T11)and not suitable animals (R11)are died. (T12)Darwin (R12)explained that this was a natural selection. (T13)And this natural selection(R13) is the basic theory of an origin of species. which is the famous book of Darwin. (T14)This (R14)changed our belief of creation by God to think that we are not created. (T15)we (R15)are the result of evolution - natural selection. (T16)We (R16)separated gradually from bible. (T17)This (R17)caused our individual thinkings to higher level (T18)and people (R18)developed on their own. (T19)As a result of great effort, (R19)scientist can explain our origin (DNA) using the advanced device. (T20)A thousands of medecins (R20)cure our disease. (T21)People (R21)can live for 80 years on average. (T22)But after death (R22)where we go? (T23)Certainly that (R23)is true our body becomes dust and disappear. (T24)But (R24)has our mind and our counsciousness gone as well? (T25)People (R25)have one body individually (T26)and this (R26)can be seen by people. because they are there. (T27)But thought (R27)is different. (T28)We (R27)don't know what they are thinking. (T28)we (R28)can't read their mind. (T29)The body (R29)exist. (T30)therefore it (R30)shows their existance physically but not mentality. (T31)This (R31)can be applied the Darwin's theory.
P3	(T32)He (R32)did very well satisfact explanation for natural world. (T33)But today (R34)people achieved big development (T35)and we (R35)stressed much visual world. (T36)People (R36)want to become beautiful. and get comfortable dress, good reputation, good mark. money . house ... outer world. (T37)How about (R37)inner world? (T38)We (R38)fill suffering and sadness if we couldn't get. Fighting, killing, disaster. (T39)The earth (R39)looks explosion because of our suffering. (T40)Darwins (R40)explained our evolution of physical aspect, but didn't explain our metal evolution. (T41)Where (R41)the counsciouss comes from? (T42)Why (R42)we can think in our brain?
P4	(T43)People (R43)have to realise the importance of inner world, (T44)and we (R44)have to know also this is the most wonderful things. (T45)If someone discover the origin of consciousness. (R45)this would be more great benefit than Darwin. (T46)Because these (R46)are unvisible.

T-IST5

Show how the discovery of the gene has led to important developments in science.

P1	(T1)We (R1)are all different. (T2)We (R2)have particular characteristic individually. (T3)This (R3)makes us happy to communicate with people. (T4)But parents and their childrens (R4)are similar. Because children inherit their characteristics through genetic transmtion.
P2	(T5)Gene – (R5)controls to form our characteristics. (T6)Male and female gene (R6)are combined together and define the children's characteristics. (T7)This study (R7)is called genetics. (T8)Nowadays (R8)genetics is most exciting study in medical world. (T9)This (R9)changes our future aspects of disease. (T10)Scientist (R10)can improve disease to control gene. (T11)They (R11)learned how to control gene cuting a gene sequence out of cells and placing it into another.
P3	(T12)For the patients who inherit the disease from parents. (R12)Scientists tried to put the gene which is called lymphocytes, to be able to fight infection. (T13)This new gene (R13)will make the enzyme which protect and control the chemical reaction. (T14)Lymphocytes (R14)destroy any bad bacteria in our body. (T15)Genetic engineering (R15)takes the bone-marrow cells and produce the lymphocytes. (T16)This (R16)is a very important process to make it. (T17)If it is successful, (R17)lymphocytes take a good role in the future generations.
P4	(T18)Thanks to the discovery of controlling gene, (R18)we can stop suffering from the successive disease. (T19)scientist (R19)changed our gene not to infect the disease in the future. (T20)This (R20)is a very big discoveries for us. (T21)Genetic Engineering (R21)is the science of changing the genetic structure of living organisms for a particular purpose. (T22)They (R22)have to treat very carefully Because the gene is made naturally.

10.3 Essay length

Table 10.3T-ISTs: The number of words and the number of T-units in each T-IST

	No. of words	No. of T-units	Av. no. of words per T-unit
T-IST1	384	36	10.67
T-IST2	461	38	12.13
T-IST3	517	44	11.75
T-IST4	441	46	9.59
T-IST5	240	22	12.00

Table 10.3T-ISTs shows that the longest essay is T-IST3 and that there is a substantial difference in length between the shortest essay, T-IST5 and the other essays. T-IST4 has the lowest average number of words per T-unit at 9.59. The average number of words per T-unit increases to 12.00 in T-IST5, but with T-IST2 being very similar to T-IST5. Further analysis to follow will help understand the information in this table.

10.4 Assessment

In this section Takako’s marks according to the assessment criteria are commented on task by task. Then a comparison of the marks across the five tasks is made to show her progress.

10.4.1 Takako’s performance on individual ISTs

T-IST1	OI	C	O	L
	1.25	1.50	1.00	1.25

Takako's essay for this first task is weak. All her marks are within Band 1: ‘Language use will greatly hinder academic success at undergraduate level’. Her mark for Content is only 1.5 because the essay includes many digressions with irrelevant details and the title she has included is somewhat misleading.

Her lowest mark is 1, for Organisation, because the organisation of the content does not relate clearly to the task instruction. The essay is not in standard essay format with paragraphs. Instead it is presented in thematic sections separated by spaces and with many sentences beginning on a new line. The reason for the indentation of T-unit 14 is unclear. S1 makes much use of phrases taken from the text. Also there is only a brief introductory sentence and no conclusion. No comparisons with wave energy are made although that intention is stated. Between T-units 11 and 15, sentences are presented as if isolated, in an itemised list of statements about electricity.

The mark for Language is only 1.25. Coherence is a problem because some misused verb forms affect coherence: e.g. 'transformed'(R9) and sometimes the information is too compressed, as in ‘We use...such as sun’(T-unit 9). Many basic inaccuracies occur with the article and number in nominal groups. The basic sentence unit is generally well structured but there are problems with punctuation, e.g. T-units 32, 33,36.

The register is appropriately fairly formal throughout. A few informal expressions intervene: e.g. 'I'd like to...' (T17) and ‘This video said that...’(T18) and particularly when the first person plural pronouns are used: e.g. 'Thanks to electricity we can get such a comfortable life.'(T-unit 15) and 'we get confused'(R26). Vocabulary is frequently repeated which has the negative effect of isolating themes in

consecutive sentences: e.g. the repeated use of 'electricity' in S2.

T-IST2	OI	C	O	L
	2.00	2.00	2.00	2.25

This essay is long for this kind of task. The marks show a general improvement over T-IST1 but they still reflect a weak essay. Although the overall organisation is fairly clear, both the marks for Content and for Organisation are only 2. That is because the essay is mainly descriptive and again is in sections rather than paragraphs, consisting of a series of statements, many of which are isolated and others only weakly connected. The most relevant information is delayed until S3 and S4, with S1 and S2 giving an introduction, thus reflecting typical Japanese discourse organisation. Each section contains a mixture of well-focused, relevant points: e.g. 'The water...human'(T7), and distracting digressions: e.g. 'I usually...cooking.'(R10). The isolated sentence at the beginning appears as a title but is misleading because it simply repeats the second part of the instruction. The last sentence seems to conclude the essay but not very effectively.

The mark for Language is the same as in T-IST1: 2.25. Coherence is patchy. This is partly because of inaccurate punctuation and partly because of weaknesses in cohesion, including lexical cohesion: eg. in the complex phrase 'Because...city'(T11), where the specific 'London' precedes the general 'big city', in 'machine...catch... substances'(R29) and in 'Chemist...colourness.'(T-unit 30). But other lexical connections do draw out the thematic links: e.g. 'bacteria', 'disease and death', 'serious'(R14,R15). There is evidence of using phrases from the text fairly successfully though the meaning is sometimes distorted: e.g. 'government...water supply'(R16).

The register is fairly formal but not consistently so, partly because of thematic digressions and frequent lapses into a personal mode with first person pronouns 'we', 'us' and 'our': e.g. 'Our daily...day.'(T-unit 5) and 'As far as...cooking.'(T-unit 10) and partly because of weaknesses at the lexico-grammatical level: e.g. 'These effects...' (T16). Basic problems at that level are evident throughout.

T-IST3	OI	C	O	L
	1.75	1.50	1.50	2.25

Takako's marks for T-IST3 are lower than her marks for T-IST2. Whereas in T-IST2 they were all in Band 2, this time, three of her marks are firmly within Band 1. Her mark for Content is only 1.5 because her essay lacks focus and relevance. Sometimes the content is incorrect. The essay foregrounds using satellites in space but omits the concept of 'thrust'. Some superficial understanding of the documentary, particularly the visual representation, is evident in P3 and P4. Her mark for Organisation is the same, 1.5, because the content is not well organised. The section on Newton's theory and gravity in P3 is difficult to follow. Most of the information in P5 and P6 is anecdotal digression. Almost every phrase can be queried.

Takako's mark for Language is higher: 2.25, which is the same as in T-IST2. This time she uses the standard essay format: paragraphs with connected discourse, which is a great improvement. Punctuation is generally very helpful for coherence. But there are frequent gaps in the expression of the content which hinder coherence: e.g. 'Satellite...changing.'(T-unit 2), 'our vision...space.'(R13), 'because...'gravity''(R25) and 'For reason...newspaper' (T-unit 35). There are problems with lexical cohesion as in 'satellite gets progress'(R1) and linking 'global change' with 'vision'(T-units 13 and 14). But some phrases from the text are skillfully incorporated into P1, P2 and P5, and the register is almost

always consistently formal. A strong sense of structure and some risk-taking are evident throughout in the use of circumstantial adjuncts, most of which are acceptable despite minor grammatical mistakes: e.g. 'To keep...orbit'(T32) and 'If something... discovered'(T44). Frequent basic mistakes in subject/verb agreement, verb modality and tense, number in determinant/noun agreement and spelling occur.

T-IST4

OI	C	O	L
1.75	1.50	1.75	2.25

Takako's marks for this fourth essay are again low. T-IST4 is not clearly divided into paragraphs but four can be assumed. The content is again very weak for several reasons, so that the mark is still only 1.50. The essay is rather insubstantial, digressive in parts and repetitive: e.g. 'Darwin's... thought.' (T-units 1-3). Some information is misrepresented. Then in P2 the essay develops into an interesting discussion about the philosophical implications that is highly abstract, clearly stimulated by the topic, but which is of no relevance to the instruction. It disconnects from the theory, which is not properly described. Similarly, the critique in P3 and P4 emphasises what the theory does not address. 'Natural selection' is mentioned but not 'artificial selection' or 'breeding'. Some statements seem to be superficial exaggerations: e.g. 'All organisms... live.'(T-units 5-6), 'thousands...disease.'(T-unit 20) and 'People... beautiful' (T-unit 36). Much use of own knowledge and experience is evident but little of the information input.

The mark for Organisation is also very low though slightly better than for T-IST3, as the mark, 1.75, indicates. There is no clear structure or sense of direction. There is an introduction but the ending is abrupt. The thread of the argument is difficult to follow due to gaps in information: e.g. 'We...bible.' (T-unit 16) and 'People...people.'(T-units 25-26).

The Language mark, 2.25, indicates no improvement. Problems with lexical cohesion are common: e.g. 'thought' probably meaning 'theory' (R3), 'successive' instead of 'successful' (T4), 'earth...explosion' (T-unit 39). Sometimes coherence is affected by problems with verb transitivity as in: 'is...explained about' (R4), 'can...theory.' (R32) and 'We...get.'(R38).

The register is often fairly informal, sometimes resembling speech, particularly with four direct questions: e.g. 'But...well?'(T-units 22-24) and 'Where...brain?' (T-units 41-42). The use of the first person pronoun 'we' is overused. For example, in T-unit 9, 'If we...survive,' the point could have been expressed more succinctly and thus more appropriately by omitting the idea of 'we'.

Most sentences are kept fairly simple but punctuation sometimes interferes with coherence. However, there is a good sense of structure in the use of nominal groups, despite frequent basic problems with lexical items, articles, prepositions, verb tenses and spelling.

T-IST5

OI	C	O	L
2.00	2.25	1.75	2.25

Takako's marks for her final essay show that it is slightly better than her previous essay. This time her marks are mainly, though not securely, within Band 2.

Her mark for Content is considerably higher at 2.25. The essay addresses the instruction but it is mainly descriptive. There is little evidence of the documentary being understood in any detail and coverage of the task instruction is thin. For example, the description of the gene and inherited characteristics is vague. But some fairly technical information in the text has been quite well used.

Takako’s mark for Organisation is unchanged because the essay is not very clearly organised. It begins with a general introduction and the conclusion is unclear. Themes are quite well-organised and developed in each paragraph apart from in P3 and P4 where ‘genetic engineering’ is defined only after it has been described.

For Language too, her mark is unchanged thus reflecting no general improvement. Coherence is patchy. Some sentences are clearly linked. Some are isolated: e.g. ‘This...people.’(T-unit 3) and ‘They...naturally.’ (T-unit 22). There are information gaps, which affects coherence: e.g. ‘Scientists...infection.’ (R12) and again ‘They...naturally.’(T-unit 22). But short, clear sentences are used effectively for conveying important information and in some cases for emphasis e.g. ‘We...different.’(T-unit 1) and ‘This...make it.’(T-unit 16). Sentence structures are frequently inaccurate, but a good range of simple and complex circumstantial adjuncts and nominal groups are used. Some uses of appropriate cohesive devices are helpful, particularly the anaphoric reference ‘this’, e.g. ‘This study’(T7). However, there are misleading uses of ‘They’(T11,T22) and ‘it’(R16). Also there are some problems with lexical cohesion: e.g. with ‘disease’ in ‘This...gene.’(T-units 9,10), ‘successive disease’(R18), ‘infect the disease’(R19), and verb/noun combinations, which are less serious: e.g. ‘put the gene... able’(R12) and ‘make the enzyme’(R13).

Fluctuations in register occur through different meanings in using ‘we’ and ‘it’. Twice, transitive verbs are used with no object: ‘controls’(R5) and ‘treat’(R22). Basic problems with punctuation, tense, articles, noun number and prepositions are frequent, occasionally affecting coherence.

10.4.2 Comparison of Takako’s progress across the five ISTs

Table 10.4.2T-ISTs(a): The assessment marks for Takako’s five essays

	T-IST1	T-IST2	T-IST3	T-IST4	T-IST5
OI	1.25	2.00	1.75	1.75	2.00
C	1.50	2.00	1.50	1.50	2.25
O	1.00	2.00	1.50	1.75	1.75
L	1.25	2.25	2.25	2.25	2.25

Table 10.4.2T-ISTs(a) shows that Takako has made a small amount of progress. There is a shift from Band 1 in T-IST1, where ‘Language use will greatly hinder academic success at undergraduate level’, to Band 2 in T-IST5, where ‘Language use will hinder academic success at undergraduate level’. Takako’s marks show that:

- there is considerable progress between T-IST1 and T-IST2 that falls back in T-IST3 and T-IST4, recovering to the same level as T-IST2 in T-IST5, with the exception of the Organisation criterion,
- for every essay apart from T-IST1 the mark for Language is higher than in the other Criteria,
- there are clear fluctuations across the tasks in all the criteria except for Language, where the marks jump from 1.25 in T-IST1 to 2.25 in T-IST2 and then stay stable for the other T-ISTs,
- the range of marks for each essay is variable though not wide, between 0.25 and 0.75, the narrowest being T-IST2,
- the range of marks for each criterion across the five essays is not very variable, 0.75 for Overall Impression and Content and 1.0 for Organisation and Language,
- on average the marks are lowest for Organisation.

Table 10.4.2T-ISTs(b): The assessment criteria and summary comments for Takako's ISTs

T-IST	AS	Mark	Summarised comments
1	OI	1.25	patchy in addressing instruction; poorly organized; lacking intelligibility
	C	1.50	mostly irrelevant; superficial; confused selection of main points; digressive
	O	1.00	very weak; no introduction or conclusion
	L	1.25	meaning frequently unclear; weak in fluency and presentation
2	OI	2.00	only partly addressing instruction; sometimes discursive; not all intelligible; long
	C	2.00	only partly relevant; fluctuations in substance and focus; exploitation of input
	O	2.00	overall structure and ordering of points only partly clear; points not always well-linked
	L	2.25	meaning sometimes unclear; some sense of structure; inaccuracies; problems in presentation
3	OI	1.75	not addressing the main instruction; unclearly organized; often unintelligible
	C	1.50	patchy in relevance; insubstantial; unclear information; long
	O	1.50	problems overall and in linking ideas; no firm introduction or conclusion
	L	2.25	meaning sometimes unclear; inaccuracies; register fairly consistent; improved presentation
4	OI	1.75	not fully addressing instruction; lacking a clear focus; lacking intelligibility
	C	1.50	much irrelevant; description and discussion confused; thin in many parts; no details
	O	1.75	unclear framework; patchy in linking of ideas
	L	2.25	meaning sometimes unclear; fairly clear sentence structures
5	OI	2.00	addressing the instruction; limited scope; patchy organisation; fairly intelligible
	C	2.25	mostly relevant; only partly substantial; some distortion of detail
	O	1.75	overall framework only partially clear; patchy in linking of ideas
	L	2.25	meaning mostly clear; problems with accuracy and vocabulary choice

Table 10.4.2T-ISTs(b) shows qualitatively how Takako has made progress. In Overall Impression, both in T-IST2 and T-IST5 improvement is mainly in addressing the task instruction more directly and in intelligibility. In these two essays, the average number of words per T-unit is approximately 12, which is higher than in the other T-ISTs.

In Content again there are clear improvements in T-IST2 and T-IST5 over the other T-ISTs in there being more relevant information and more substantial treatment of the content. In the other three T-ISTs there are problems with accuracy of information, particularly at the level of detail, and much of the content is superficial. The last essay, T-IST5, is the best which is interesting because it is much shorter than the other essays. As well as containing more relevant information, it contains less irrelevant information.

Her marks reveal that Organisation is her weakest point. However, after T-IST2 in all three remaining essays there is an improvement in terms of the discourse and essay structure, not only through paragraphing, but in indicating an introduction and, though less clearly, a conclusion. This is not reflected in the marks for those essays because the linking of ideas is very weak. In fact T-IST2 has the best overall structure.

In Language, the marked improvement in T-IST2 over T-IST1 due to clearer expression and it is maintained throughout the remaining T-ISTs. In T-IST5, there is further improvement but problems with accuracy persist. Here the T-units are, on average, longer than in T-IST4, and have more linguistic complexity.

10.5 Thematic organisation, cohesion and lexico-grammatical features

The details for these features in each individual essay are given in Appendix A-10.(1-5)

10.5.1 Thematic Organisation

Hypertheme

Table 10.5.1T-ISTs(a): Hypertheme in Takako's five essays

T-IST	No.	Hypertheme	T-units	Total no. of T-units
1	5	(a) Wind turbines as a source of power (b) Energy from nature (c) Electricity (d) Wave energy (e) Advantages of producing energy through wind turbines	1-8 9-11 12-16 18-28 29-36	36
2	4	(a) The importance of water (b) The importance of clean water (c) The government and water companies (d) The need to improve water	1-7 8-16 17-22 24-37	38
3	6	(a) The importance of satellites for understanding change (b) Developments in using satellites (c) The work of NASA (d) Newton and the shuttle (e) The satellite transmitting information (f) The need to support space research	2-10 11-18 19-23 24-33 34-38 39-44	44
4	7	(a) Acceptance of Darwin's theory (b) Darwin's study of the behaviour of animals and plants (c) The effect on our religious beliefs (d) The scientific explanation for our origin (e) The problem of death (f) The strength of the theory (g) The need to explain the inner world	1-6 7-13 14-18 19-21 22-31 32-42 43-46	46
5	4	(a) Individual differences (b) The study of genetics (c) Lymphocytes for the treatment of inherited disease (d) The importance of genetics in treating disease	1-7 8-11 12-17 18-22	22

Table 10.5.1T-ISTs(a) shows that the greatest number of hyperthemes is in T-IST4, which also has the greatest number of T-units. In this essay the average length of the T-unit is 9.59 words, which is the shortest average of all the essays.

The hyperthemes in all the T-ISTs are linked to the task topic but some only some introduce information directly relevant to the task instruction. These are: T-IST1:H(a,e); T-IST2:H(b,d); T-IST3:H(a,b,d); T-IST4:H(b); T-IST5:H(c). Others address it only indirectly: T-IST1:H(b,c,d); T-IST2:H(a,c); T-IST3:H(c,e,f); T-IST4:H(a,c,d,e,f,g); T-IST5:H(a,b,d).

In T-IST1, H(a) and H(e) both lead into the advantages of wind turbines. H(b,c) introduce the topic of energy and electricity respectively without focusing on comparing different means of supplying energy, whereas H(d) focuses on comparing wave with wind energy but leads into a long description of wave energy. Thus the instruction is not clearly addressed and coverage is not well-balanced which explains why the marks for both Content and Organisation are low.

In T-IST2, H(a,b) both lead into the topic of water and the causes and effects of pollution are briefly mentioned after H(b). Together they are extended over 16 of the 38 T-units which is too much in terms of a balanced response. Then, H(c,d) turn to the second part of the instruction with H(c) not being directly relevant to the instruction but leading into the more relevant and much longer part introduced by H(d): the chemist's work. Hence, there is an improvement in both Content and Organisation over T-IST1.

In T-IST3, H(a) leads into the reasons why satellites are important and H(b) into progress in space. Hence both are clearly relevant to the instruction. H(c) introduces a detail about the training of astronauts which is not clearly contextualised. But H(d) introduces a link between Newton, the shuttle and gravity, which, although not clear, relates to the task instruction. H(e) leads into a more general description about the importance of satellites and H(f) into a conclusion about the importance of supporting space research. Both the Content and Organisation are weaker than in T-IST2.

In T-IST4, H(a) leads into an introduction of why Darwin's theory is popular and H(b) into a discussion of how Darwin arrived at the theory. Then H(c,d,e) introduce indirect issues to do with the furthering of knowledge and change: H(c) into change, H(d) briefly into knowledge and change, H(e) into death, which is not directly relevant but spans 10 T-units. Finally, H(f,g) introduce two concluding, general discussions about the theory, beginning with the strengths, and then focussing on weaknesses of the theory. The Organisation is better than for T-IST3 but there is no improvement in Content since much of it is irrelevant and lacks detail.

In T-IST5, which is a much shorter essay, H(a,b) lead into the study of genetics: H(a) into a very general, indirect introduction and H(b) into more detail, which is also more relevant. H(c) leads into more interesting and substantial detail which directly addresses the instruction. H(d) introduces a general, concluding statement. Hence there is progress in Content but not in Organisation due to weak hyperthematic linking.

Thematic Progression

Table 10.5.1 T-ISTs(b): Thematic progression

T-IST	1	36 T-units (35 links)	2	38 T-units (37 links)	3	44 T-units (43 links)	4	46 T-units (45 links)	5	22 T-units (21 links)
Type	No	SL	No	SL	No	SL	No	SL	No	SL
slp	10	2,1,2,1,2,1,1	11	1,1,4,1,1,2,1	12	1,1,1,1,1,2,1,1,1,2	11	1,1,1,3,1,2,2	8	3,1,1,1,1,1
cp	7	1,2,1,1,1,1	9	1,2,1,1,4	9	1,1,2,2,2,1	7	3,1,1,1,1	5	1,1,1,1,1
op	10	1,1,2,2,1, 1,1,1	20	2,2,3,1,1,2, 1,3,1,1,3	15	3,2,2,1,3,3,1	11	1,1,1,3,3,1,1	10	1,2,5,1,1
all p	21	2,2,2,4,6,1, 1,1,1,1	30	2,6,1,5,2,1, 6,7	33	5,7,2,4,3,1, 9,2	28	1,2,10,5,6,1, 1,1,1	18	16,2
sp	0	0	0	0	0	0	1	1(1+1)	0	0
no prog	4	2,1,1	0	0	3	1,2	9	1,3,2,3	2	2

Table 10.5.1 T-ISTs(b) shows that Takako uses all types of thematic progression. The use of simple linear progression in relation to the total number of links per T-IST is approximately in the same range for T-ISTs 1,2 and 3: 29%, 30% and 28% respectively, dropping to 24% in T-IST4 and then rising to its highest use, 38% in T-IST5. The longest sequence is in T-IST2 which shows progress over T-IST1. But many sequences of simple linear progression are very short, involving only two or three T-units, so that development of the content is limited. This is particularly evident in T-IST3 where both the Content and Organisation marks are only 1.5.

The use of constant progression is less than 25% in all Takako's essays, falling in T-IST4 to 16%, and it occurs mainly in short sequences. The longest sequence occurs in T-IST2, thus holding back the development of the content. But in T-IST5, none of the five links are in sequence. In relation to simple linear progression, constant progression is used less frequently in all the T-ISTs. In relation to the total number of T-units, it ranges from the higher percentages of 70%, 82% and 75% in T-ISTs 1,2,

and 3 respectively to the lower percentages of 64% in T-IST4 and 63% in T-IST5, showing a gradual improvement across the T-ISTs.

Use is made of progression taken up in the Rheme (op) across all the T-ISTs, in particular, in T-IST2 and T-IST5: 54% and 48% respectively. This is probably helpful for thematic continuity but not necessarily for progression. For example, in T-units 4-6 of T-IST2, the theme of water is carried through the Rheme:

(T4)80% of our body (R4)is water. |(T5)Our daily life (R5)begins to drink a cup of water |(T6) and we (R6) drink more than 1 litre of water in one day.

The characteristics of water are presented as three separate pieces of information in the Rheme. This arrangement does not allow for cohesive ties to be made and, consequently, nor for thematic development.

The uses of all types of progression in combination (all p) is fairly high across Takako's five essays and is particularly noticeable in T-IST2, T-IST3 and T-IST5. Some sequences are quite long in all T-ISTs: 4 and 6 consecutive links in T-IST1; 5,6 and 7 in T-IST2; 5,7 and 9 in T-IST3; 5,6 and 10 in T-IST4. The best sequencing occurs in T-IST5 where there are only two sequences; one is very long involving 16 consecutive links, thus suggesting some improvement in thematic continuity. This last essay has the highest mark for Content and is the shortest essay. One other possible interesting point is that there are two series of short sequences occurring consecutively at the end of T-IST1 and T-IST4 which suggests that thematic continuity is weaker towards the end of both those essays.

In T-IST4, there occurs the only sequence of split progression. Although short, it probably indicates progress in thematic progression.

In terms of no progression, the weakest essay is T-IST4, where there are nine isolated T-units, including two sets of three consecutive T-units. Closer examination reveals that the last two sets (of 2 and 3) occur towards the end of the essay. In T-IST5 there is much improvement with only two isolated T-units: the final two T-units of the essay.

The distribution of information in the T-unit

Table 10.5.1T-ISTs(c): distribution and acceptability of information in the Theme and Rheme

	T-IST1 (36)			T-IST2 (38)			T-IST3 (44)			T-IST4 (46)			T-IST5 (22)		
Item	Total	/	x	Total	/	x	Total	/	x	Total	/	x	Total	/	x
NI-Th	7	6	1	9	9	0	12	11	1	8	7	1	4	4	0
NI-Rh	33	26	7	32	26	6	42	26	16	43	31	12	22	11	11
E-Th	6	6	0	1	1	0	1	1	0	2	1	1	0	0	0
E-Rh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 10.5.1T-ISTs(c) shows that new information in the Theme in relation to the total number of T-units increases over the first three T-ISTs: 19%, 24% and 27% respectively, thus interrupting thematic continuity. However, in the last two T-ISTs it occurs less frequently showing some improvement (17% and 18% respectively).

In the Rheme, new information occurs in most T-units throughout the five T-ISTs (92%, 84%, 95%, 93% and 100% respectively), which is helpful for thematic continuity. However, in all the T-ISTs many instances are judged unacceptable so that the use of acceptable NI-Rh decreases in the following way across the five T-ISTs (1:72%, 2:68%, 3:59%, 4:67%, 5:50%). This mismatch between the frequency with which new information occurs in the Rheme and the frequency of acceptable occurrences

would suggest that, while Takako is making progress in structuring her essays, her expression is still problematic and could partly contribute to her low marks for Language.

The empty Theme is used quite frequently in T-IST1 but in the remaining essays only rarely or never, which means that it does not hinder thematic continuity.

10.5.2 Cohesion

Table 10.5.2T-ISTs: Key cohesive features in relation to the number of T-units

Item	T-IST1 (36)			T-IST2 (38)			T-IST3 (44)			T-IST4 (46)			T-IST5 (22)			T
	Total	/	x	Total	/	x	Total	/	x	Total	/	x	Total	/	x	
CA	7	6	1	13	10	3	11	9	2	5	5	0	4	3	1	40
C	10	9	1	7	6	1	8	6	2	16	16	0	1	1	0	42
AR	13	5	8	28	26	2	13	10	3	32	21	11	17	14	3	103

Table 10.5.2T-ISTs shows that circumstantial adjuncts as Theme occur much more frequently in T-IST2 and T-IST3 than in T-IST1, (T-IST1: 19%, T-IST2: 34% and T-IST3: 25%, in relation to the total number of T-units), which probably contributes to the higher Content mark. In T-IST4 and T-IST5 they are used less frequently in relation to the number T-units (11% and 18% respectively) but all uses are acceptable apart from one in T-IST5.

Conjunctives and other adjuncts, are used quite frequently in T-IST1 and T-IST4 (28% and 35% respectively, in relation to the number of T-units) which is also helpful for cohesion, particularly as they are judged acceptable in almost all cases. However, there is limited use in T-IST2 and T-IST3 (18%), and in T-IST5 they are used only once which possibly contributes to the low mark for Organisation.

The use of anaphoric references fluctuates across the five essays. In relation to the total number of T-units there is a 36% occurrence in T-unit 1, rising to 74% in T-unit 2, dropping to 30% in T-unit 3, and rising to 70% in T-unit 4 and to 77% in T-unit 5.

In terms of acceptable ARs, the weakest essays are T-IST1 and T-IST4. In T-IST1 the majority are judged unacceptable, 8/13, reflecting poor cohesion as indicated by the very low Organisation mark; and in T-IST4 nearly a quarter are found unacceptable. T-IST2 shows much improvement over T-IST1 with 68% judged acceptable which enhances cohesion as shown by the Organisation mark: the highest for all the T-ISTs. In T-IST5, where only three ARs are judged unacceptable (3/17), there is a clear improvement over T-IST4, where only 11/32 are judged unacceptable.

As with NI-Rh, frequency of use is not matched by frequency of acceptable use of ARs across the tasks. However, in T-IST5 the frequency of acceptable ARs is much better than that of NI-Rh thus showing more progress in expression in terms of using ARs than of presenting NI-Rh.

10.5.3 Lexicogrammatical features

Table 10.5.3T-ISTs: Nominalisation and passive verb forms

Item	T-IST1 (36)			T-IST2 (38)			T-IST3 (44)			T-IST4 (46)			T-IST5 (22)		
	Total	/	x	Total	/	x	Total	/	x	Total	/	x	Total	/	x
SNom	2	2	0	9	7	2	9	8	1	10	9	1	7	6	1
CNom	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
PV	8	7	1	7	4	3	5	5	0	7	3	4	4	4	0

Table 10.5.3T-ISTs shows that nominalisations are not used very frequently in any T-IST in relation to the number of T-units: the least frequent use being in T-IST1 at only 6%. There is an increase in use to

24% in T-IST2. In T-IST3 and T-IST4 it stays roughly the same at 20% and 22% respectively but in T-IST5 there is another increase to 32%. A similar profile is shown for the acceptable uses of simple nominalisation with the lowest use in T-IST1 at 6% and the highest use in T-IST5 at 27%. Very few nominalisations are considered unacceptable throughout: only 5/38. Hence there is clear progress in the frequency of using nominalisations and in the percentage of those used that are considered acceptable. Frequency of use and frequency of acceptable use are almost the same, unlike the profile for NI-Rh and AR. Only one complex nominalisation is used and that is in T-IST5.

There is little use of passive verbs. It is highest in T-IST1, at 22% in relation to the total number of T-units. It drops down to 18% in T-IST2 and to 11% in T-IST3. Then there is a slight increase to 15% in T-IST4 and another increase to 18% in T-IST5. However, the acceptable uses provide a different picture. In relation to the total number of T-units, it is highest in T-IST1 at 19%. Then in T-IST2, T-IST3, and T-IST4 it drops to 11%, 11% and 7% respectively, rising to 18% in T-IST5, thus showing some improvement in the last essay.

10.5.4 Summary of Takako's progress and change in her essays

In summary, Takako has made some progress as shown by her marks. The areas where there is evidence of progress across the essays are:

Content – in relevance and substance through:

- the selection of more relevant hyperthemes in the final essay,
- more relevant detail in the final essay.

Organisation – in essay structure through:

- longer sequencing of consecutive linking in all progression resulting in better thematic continuity,
- shorter sequences of constant progression resulting in better thematic development,
- fewer sequences of constant progression in relation to simple linear progression resulting in better thematic development,
- fewer occurrences of new information in the Theme,
- fewer occurrences of the empty Theme,
- more occurrences of new information in the Rheme but fewer occurrences of acceptable new information in the Rheme,
- a reduction in the number of isolated T-units,
- more frequent uses of anaphoric references and of acceptable uses of anaphoric references but with a clear difference in profile.

Language – in linguistic complexity through:

- more frequent use of nominalisations and of acceptable nominalisations so that frequency is closely matched by acceptability,
- an increased use of passive verb forms matched by their acceptability in her last essay so that the difference between the frequency of use of passive verbs and of acceptable passive verbs is not as great or as consistent as for new information in the Rheme or for anaphoric references.

10.6 Takako’s progress and change in terms of her approach to all the ISTs

Takako’s progress is examined through her comments in the post-task interviews and her micro-task notes. First it is briefly discussed in terms of the approaches she adopted to address each IST, task by task, and then a comparison is made across all the ISTs. Further details about her approach to each IST are given in Appendix A-10.(1-5).

10.6.1 Takako’s progress in each IST

T-IST1

OI	C	O	L
1.25	1.50	1.00	1.25

Takako’s comments show that her approach to IST1 was very much that of a person who was ready for a challenge. Although her marks are very low, the experience seems to have been positive and productive for her personally, as she says:

When I finished the writing ano/ it’s a little bit confident ..not confident, it’s a little bit ano / ano I feel happy...Finished...I did the task and it’s very hard to reading and listening and writing. It’s hard three hours so...enthusiastic...quite confident...it’s not every day every week so...it’s a very good time.’

She said that she enjoyed the challenge because she had to work hard and because she was doing it in English. Unfortunately, this was not enough. Takako also said that she had problems selecting and organising the content, which is demonstrated in the thematic organisation of her essay. The content is patchy in addressing the task instruction, as the organisation and selection of hyperthemes show. Also there were many problems with thematic linking and the use of cohesive devices.

It seems that Language was a barrier to her comprehension of the content as well as to producing an essay that addressed the task demands. As she explained, she could not think of all the task demands and integrate them.

Takako seemed to be particularly concerned about how to structure what she wanted to say. She asked me to reformulate erroneous phrases that she had written so as to repeat them and memorise them. Thus, she could not fully integrate language with content and organisation. She also said critically:

Wind energy have a lot of importance future compared with wave energy. I should have compared it with other forms of energy but not enough time.

This indicates that, on reflection, she had understood the task demands but had found the integration of skills difficult to deal with.

T-IST2

OI	C	O	L
2.00	2.00	2.00	2.25

It appears that Takako used mainly a deep and a strategic approach but also adopted a surface approach in the attempt to take short cuts and compensate for her short-comings. For example, she had taken many notes of the documentary but the evidence in her essay suggests that she had not selected what was relevant. Perhaps she had not been able to plan ahead and consequently became too short of time to plan her essay properly.

Having become familiar with the task procedure in IST1, she appeared to be generally more

prepared about how to address IST2. Although she seemed concerned about the limited amount of time, she had reflected on the task format itself and had identified certain short-comings, which she thought posed limitations on what she could do in the time allowed. Her comments were more critical of the task format this time. Perhaps she felt that she was more in control of the task than before.

As with T-IST1, her comments suggest that her goal was to complete the task. It appears that she retained the instruction as her central focus for the content but, as the analysis of her essay shows, she was only able to do this at sentence level. It seems that her marks for Organisation and Content might be explained by her surface, quick-fixing approach to make statements that were not always relevant and that did not always link together in connected discourse. She may have strategically focused on expression more than on developing the content. She may also have thought she should produce an essay that was quite long regardless of how substantial it would be.

T-IST3

OI	C	O	L
1.75	1.50	1.50	2.25

Takako’s comments and notes suggest that she adopted a similar approach to addressing IST3 as to addressing IST2. On the one hand she seems to have approached it holistically and analytically through thinking about the instruction and examining how the information input could be useful. But she also seems to have resorted more frequently to a surface approach to cope with the content-related difficulties in the task. These may have caused her difficulties in using successful strategies to plan her essay clearly. Her comments suggest that, because she had so many comprehension difficulties, she struggled to write her essay. It may have been difficult for her to cope with her own short-comings with English as an additional problem.

Again, she could produce reasonably sound and coherent statements but could not expand on them clearly. Her essay was unnecessarily long, probably because of her surface approach of producing quantity rather than quality. She seems to have taken risks with her language and ideas without examining whether she was writing something appropriately or relevantly: a typical phenomenon of using interlanguage.

T-IST4

OI	C	O	L
1.75	1.50	1.75	2.25

It seems that Takako used different, interconnected approaches to address IST4. She probably began using the same deep approach to understanding the task instruction that she had used before and hoping again that the documentary would help her. But her problems seemed to begin during the thinking time itself when she had difficulty making sense of the task instruction. She probably needed more help than she had access to, especially since she did not have her own science dictionary.

It seems that she watched the documentary critically in terms of interest and whether and how she could use it but, as her comments suggest, she had difficulty in understanding both the content and the theory in relation to the task instruction. She may have reacted to her disappointment by deciding not to draw on the information inputs and instead drawing on familiar ground, her own knowledge and experience, thus taking a philosophical perspective. By doing so, she may have felt that she was gaining some control over the task even though she realised at the end, according to her comments, that what she had written was not relevant. As in previous tasks, it appears that she found the process of working on the task satisfying. Her comments suggest that she was probably using a range of strategies such as

self-regulation, controlled risk-taking and compensation.

However, as her essay shows, she had problems writing a coherent essay. Her essay is very long and lacks depth and direction. She may have had to resort to a surface approach in different ways: atomistically through focusing on completing the essay within the time given, which meant adopting short-term solutions such as using phrases from the text input and taking uncontrolled risks through expressing her views without relating them to the task instruction. It appears that she had put her energies into writing and thinking at the same time thus creating an essay of considerable length but one where the content was not well thought out or developed.

T-IST5

OI	C	O	L
2.00	2.25	1.75	2.25

There is some indication of progress in Takako’s approach to IST5 which is not fully realised in her performance. As before, her comments suggest that her general approach to the task was positive. She said she regarded it as a challenge and found it interesting. Being a physics student, the topic was unfamiliar to her: ‘I don’t know, this is biology’ but she said that she was enthusiastic about the topic: ‘so it’s very interesting.’ and continued: ‘If once we we cured in from the gene don’t, they don’t inherit genetic relation so it’s very useful in the future.’ thus displaying some basic understanding of how characteristics are inherited.

Her progress is evident in her reflective comments about interpreting the task instruction because, this time, she was able to explain the difficulties she had had. Her more strategic approach was becoming automatised but this caused new problems to emerge which prevented her from gaining full control of her working. For example, her questioning of the relevance of the information about the gene to the task instruction is a possible indication that she was thinking about the content in more depth than before.

However, her level of English, in comprehension, speaking and writing, was still quite low so that it is possible that she could not make close links between her thinking, her comprehension and her writing. This could account for the fluctuations in substance in the content of her essay, the emphasis on description and the difficulties with clear thematic linking. Sometimes too many links were made which confused the direction of the essay.

10.6.2 A Comparison of the approaches adopted by Takako across the five ISTs

A summary of the approaches used by Takako is presented below in Tables 10.6.2T-ISTs(i), (ii) and (iii) below.

Table 10.6.2T-ISTs(i): Summary of the deep approaches used by Takako in the ISTs

DEEP	IST	1	2	3	4	5	Total
holistic	a	-	/	/	-	/	3
	b	/	/	-	/	-	3
	c	/	-	-	-	-	1
reflective	a	-	-	-	/	-	1
	b	-	-	-	-	-	0
Total		2	2	1	2	1	8

Table 10.6.2T-ISTs(ii): Summary of the strategic approaches used by Takako in the ISTs

STRATEGIC	IST	1	2	3	4	5	Total
analytical	a	-	-	-	-	-	0
	b	-	-	-	/	-	1
skill-oriented	a	/	-	-	-	-	1
	b	-	-	-	-	/	1
	c	-	-	-	-	/	1
self-regulation	a	-	-	-	-	-	0
	b	-	-	-	/	-	1
	c	-	-	-	/	-	1
controlled risk-taking	a	-	-	-	-	/	1
	b	-	-	-	/	-	1
selective	a	-	-	/	-	-	1
	b	-	-	-	/	-	1
compensatory	a	-	/	/	/	-	3
	b	-	-	/	/	-	2
	c	/	-	-	-	-	1
coping	a	-	-	-	-	-	0
	b	/	-	-	-	-	1
	c	/	/	/	/	-	4
Total		4	2	4	8	3	21

Table 10.6.2T-ISTs(iii): Summary of the surface approaches used by Takako in the ISTs

SURFACE	IST	1	2	3	4	5	Total
atomistic prioritising	a	/	-	/	/	-	3
	b	-	-	-	-	-	0
atomistic quick-fixing	a	-	/	-	/	-	2
	b	-	-	-	/	/	2
uncontrolled risk-taking	a	/	-	/	/	/	4
Total		2	1	2	4	2	2

Table 10.6.2T-ISTs(i), (ii), and (iii) shows that Takako used a wide range of deep, strategic and surface approaches to address the ISTs. She used strategic approaches mostly and deep approaches least of all. She frequently changed her approach from one IST session to another. In addressing IST4 alone she seems to have used four different types of surface approach and eight different types of strategic approach. She used the same two types of deep approach in three ISTs but not always in consecutive ISTs. But she used two types of strategic approach in consecutive ISTs: a coping strategic approach in four ISTs and a compensatory strategic approach in three ISTs. She consistently used the same surface approach – uncontrolled risk-taking - in four ISTs.

She adopted new types of approaches late in the programme for the first time: in IST4, one deep approach, five types of strategic approach and one surface approach; and in IST5, three more new types of strategic approach.

Table 10.6.2T-ISTs(iv) below provides a more detailed description of the approaches adopted by Takako.

It shows that Takako used the same two types of deep approach in three ISTs: seeking to conceptualise the task demands in relation to the task instruction and seeking to understand her own ability in relation to the task demands. It is possible that these helped her to realise her own strengths and weaknesses in relation to the task demands because, during the interviews after IST1 and IST2, some of her comments suggest that the experience of doing the task was positive although difficult. After IST1 she said: 'It's a very good time.' and 'It's hard three hours so // it's enthusiastic.'

Table 10.6.2T-ISTs(iv): Details of the approaches used by Takako in the five ISTs

Approach	Type	Features of the approaches in the context of the ISTs	IST
deep	hol	(a) seeking to conceptualise task demands in relation to task instruction, thinking about topic and evaluating task components	2,3,5
		(b) seeking to understand self-ability in relation to task demands	1,2,4
		(c) conceptualising task demands in relation to long-term interests through appreciating the challenge of the task	1
	ref	(a) critiquing self- performance	4
strategic	analy	(b) adopting a critical approach to task	4
	sk-or	(a) closely following advice and instructions given about task procedure	1
		(b) using the dictionary for meaning and language use	5
		(c) making extensive notes	5
	self-r	(b) balancing input with output processing	4
		(c) monitoring own performance	4
	con-ris	(a) identifying problems with the task and attempting to overcome them, e.g. selecting relevant information to build an essay	5
		(b) exploiting own interlanguage system	4
	sel	(a) prioritizing language above content	3
		(b) focusing on features of interest	4
	comp	(a) using a familiar learning style through automatic transfer	2,3,4
		(b) drawing on prior knowledge and experience to overcome difficulties	3,4
		(c) utilizing the information input as far as possible	1
	cop	(b) seeking to gain control by making the task manageable	1
		(c) focusing on the goal of producing a completed essay	1,2,3,4
surface	ato-pri	(a) selecting only manageable elements of the task	1,3,4
	ato-qf	(a) addressing dominant concerns regardless of priority	2,4
		(b) incorporating select phrases from dictionary and text into essay	4,5
	unc-ris	relying on trial and error performance	1,3,4,5

Table 10.6.2T-ISTs(iv) also shows that Takako used the same two types of strategic approach in several ISTs; one was compensatory: using a familiar learning style, which she adapted to the task situation; the other was a coping type of strategic approach: focusing on completing her essay. She may have found these types of strategic approach useful because they provided ways of managing the task without her worrying about her weaknesses. She probably resorted to the same two types of surface approach in several ISTs for the same reason: to complete the essay. These were atomistic prioritising, i.e. addressing only certain aspects of the task demands, and relying on trial and error. For example, after IST3 she said: 'I cannot make the links in this task in the text. I had not plenty of time but I finished eno minutes before.'

Table 10.6.2T-ISTs(iv) also shows that Takako adopted some approaches only for addressing one or two ISTs which means that she probably could not find an effective way of addressing all the ISTs and needed to try out new approaches. Her comments about IST4 suggest that she wanted to think about this task differently which could explain why she adopted seven new types of approach so late in the programme:

This time I didn't use this text book (meaning 'the text information input'), a little bit I used but er I didn't use er a little bit a video (meaning 'the documentary'), just my knowledge and my thinking and I write down because er it's very interesting and / it is easier than any other any other one so I didn't use this one, text book or something.

The three new types of strategic approach she adopted in IST5 may be explained similarly. All three would have been very helpful since they were skills-oriented types: using the dictionary, making extensive notes, and selecting relevant information to build up her essay. It is possible that the ways she had tackled the earlier ISTs led her to these better approaches in the final task.

10.7 Conclusions

Having examined Takako's progress through three aspects of her performances: her marks according to the assessment criteria, the text analysis of her essays and her approaches to the ISTs, these are now examined as integral parts of her whole progress within the task-based programme. Tentative comments are made about possible links between her approaches to the tasks and her performances in her essays with reference to his marks and to the text analysis.

<i>Content:</i>	T-IST1	T-IST2	T-IST3	T-IST4	T-IST5
	1.50	2.00	1.50	1.50	2.25

Takako's progress as shown by her marks for Content, both in T-IST2 and T-IST5, is mainly due to the better choice of hypertheme, which, every time, introduces more relevant information than in the other three T-ISTs. Sometimes her choice of information was limited by what she could understand. She had difficulty understanding the documentary information in any depth because it was passing information whereas she had more time at her disposal to understand the text.

T-IST1, T-IST3 and T-IST4 are all insubstantial and contain much irrelevant information but the types of strategic approach she tried using for T-IST3 and T-IST4 may have helped her find more effective types of approach to address IST5. By focusing more sharply on relevant content of the information input in IST5, making extensive notes and trying to make sense of them to select what she could find that was relevant to the task instruction she was beginning to find out how to manage the content. Her technique of incorporating text information improved. Although T-IST5 is shorter than the other T-ISTs it reveals sound progress in Content.

<i>Organisation:</i>	T-IST1	T-IST2	T-IST3	T-IST4	T-IST5
	1.00	2.00	1.50	1.75	1.75

Takako's marks for Organisation show limited progress, being mostly within Band 1. The very low mark for T-IST1 is due to several weaknesses including poor anaphoric referencing, which improves in T-IST2 and later in T-IST5. The much higher Organisation mark in T-IST2 is mainly due to longer thematic sequencing of simple linear progression and of a combination of all types of progression, giving more thematic continuity. Also, this is the only essay where all T-units are involved in some kind of thematic continuity. Takako's microtask notes and her comments in the interviews suggest that she was able to plan best in IST2, probably because she could relate the instruction to the information at hand. Although the distribution of information in the T-unit is generally good in all the essays with new information occurring in the Rheme in most T-units, acceptability is always a problem but least so in T-IST2. She had problems linking her ideas in T-IST3 but this improved in her last two essays.

In most of the ISTs Takako retained her goal of completing the essay. The types of strategic and surface approaches that she adopted in T-IST4 may have helped her to switch in T-IST5 to focus on producing a better balanced essay. However, throughout all her essays, the organisation is weak, both at the textual level and at the level of connected discourse. For example, in her final two essays, isolated T-units at the end seem to be added on as extra information rather than an integral part of the essay. She did not have the means to present her knowledge clearly in a way that would be a direct response to the

task instruction. This was exacerbated by her limitations of linguistic expression, which was a constant difficulty.

<i>Language:</i>	T-IST1	T-IST2	T-IST3	T-IST4	T-IST5
	1.25	2.25	2.25	2.25	2.25

After her first experience of addressing an IST, Takako was able, in T-IST2, to make progress in general coherence. Her immediate improvement in her Language marks is mainly due to an increase in the use of nominalisations. In the remaining three T-ISTs, there is much more evidence of connected discourse in paragraphs as opposed to lists of separate sentences. Perhaps her strategic approach to focus on meaning rather than on language may have helped with the paragraphing her essay. Also she started trying to express complex ideas. In T-IST5 she used the most nominalisations in relation to the number of T-units which suggests that she made progress in writing more concisely. However, her limited use of passive verb forms indicates that she may need more practice with understanding and writing in a general scientific genre. Unfortunately coherence was still patchy due to weaknesses in expression, particularly in lexical cohesion and grammar, as found in the many items judged unacceptable.

Her comments suggest that she used her interlanguage to take risks, which is commendable. In the interviews she managed to describe complex ideas orally using semi-technical expressions, which she had first encountered only in the IST that was being discussed. However, even in T-IST5 she still needed to resort to a surface approach to complete her essay.

<i>Overall Impression:</i>	T-IST1	T-IST2	T-IST3	T-IST4	T-IST5
	1.25	2.00	1.75	1.75	2.00

Takako's marks for Overall Impression reveal progress in T-IST2 and in T-IST5 in a similar pattern to her marks for Content. Although Takako adopted a holistic type of deep approach to the ISTs from the beginning, she was sceptical about how useful the thinking time was at the beginning of each task even though the value of preparing and planning was frequently discussed. For the first three ISTs, she said that she found this time 'a waste of time' because it could have been more profitably used as extra time to write the essay and because she found that it was the documentary that stimulated her to start planning her essay. This could partly account for her low marks because she would have become short of time by missing twenty minutes of preparation time at the beginning. Her early progress in T-IST2 could be due to her better understanding of the IST2 documentary than of the IST1 documentary so that she was able to produce a more relevant essay with a better sense of linguistic structure. But her three middle essays, T-IST2, T-IST3 and T-IST4, which were also her longest, contain much redundant information. The dip in her marks for T-IST3 and T-IST4 could probably be explained in two ways. Firstly she seemed to find the content more difficult so that organising the content would also be difficult, and secondly she was probably having to learn new ways of developing her use of English which were taking her some time to assimilate so that her progress would also take time. But her comments about IST4 and IST5 reveal that she used the thinking time at the beginning much more profitably than in the earlier tasks: trying to interpret the instruction and consulting dictionaries as initial preparation for her essay. This change of approach could explain the improvement in T-IST5 where she displayed a better grasp of the relevance of the content to the task instruction, thus showing improvement in Overall Impression.

10.8 Closing Comments

Takako's marks show that she improved almost by one band, where it could be predicted that she would still have difficulty in her academic studies because of her language use. But, as we have seen, the progress she made in addressing the ISTs is reflected in her essay marks only to a limited extent. The marks suggest that her threshold level was not high enough to overcome the difficulties she encountered so that, although there was much room for her to improve, she was only able to make a limited amount of progress. Her comments indicate that there was an imbalance between her highly sophisticated mind and her level of receptive and productive linguistic skills because she appeared to have problems expressing her thoughts. Her comments also suggest that she was aware of this because, during the interviews, she often sought advice for improving her linguistic expression.

After each experience of doing an IST she appeared to become more aware of her weaknesses but to have difficulty finding appropriate types of strategic approach to overcome them even though she tried to capitalize on her strengths. In the first three tasks she probably needed to see the documentary to stimulate her thinking and writing in English because the visual images would help her to understand the information. However, this dependence on the documentary before starting to work on the task, followed by her difficulty with understanding it, probably led to further problems. She then would have had to use the information she had been able to extract to the best of her ability using compensatory strategies to complete her essays. This could explain the frequent problems she had with being relevant in her essays.

However, there were three inter-related features about Takako's writing that would indicate possibilities of future progress. Firstly, the connected discourse she had begun to use in T-IST3 led to improvements in thematic progression and continuity in T-IST5. Secondly her change of approach in IST4 to using the initial 20 minutes thinking time more profitably than in previous ISTs, seems to have helped her in the next and final task, IST5. Thirdly and consequently, these two approaches became effective with practice in the final essay, not when they were first adopted in T-IST3 and T-IST4. This would account for the clear improvement in the relevance of the content to the task instruction in T-IST5 and why T-IST5 is much shorter and more concisely written than any of the previous essays. Thus Takako may have reached the stage where she was able to begin to take control over her learning process, which would be very important in her case.

CHAPTER 11

FINDINGS AND DISCUSSION

This chapter begins with a summary of the study. Then the research questions are addressed through a discussion of the findings.

11.1 Summary of the Study

The purpose of the study has been to investigate a number of students' responses to an integrated skills task-based course set within an ESAP (English for Specific Academic Purposes) context. The students were using English as their second language and were following the course as a part of a programme preparing them to study science at undergraduate level at an English-medium university within the UK. There were six students in all. In order to study their progress in depth, three of the students, who made progress in different ways, were examined in detail so as to scrutinise what contributed to their progress. The other three students' essays have been included in Appendix A-7 together with an analysis of the essays according to the assessment criteria to provide the reader with an idea of their general progress in relation their peers.

Theories that have made a key contribution to our understanding of the dynamics of language in use have been drawn on. They have their roots in Socio-cultural Theory, Linguistics, Anthropology and Cognitive Psychology as shown in Figure 11.1.

Figure 11.1: Key theoretical contributions leading to the ESAP context of learning.

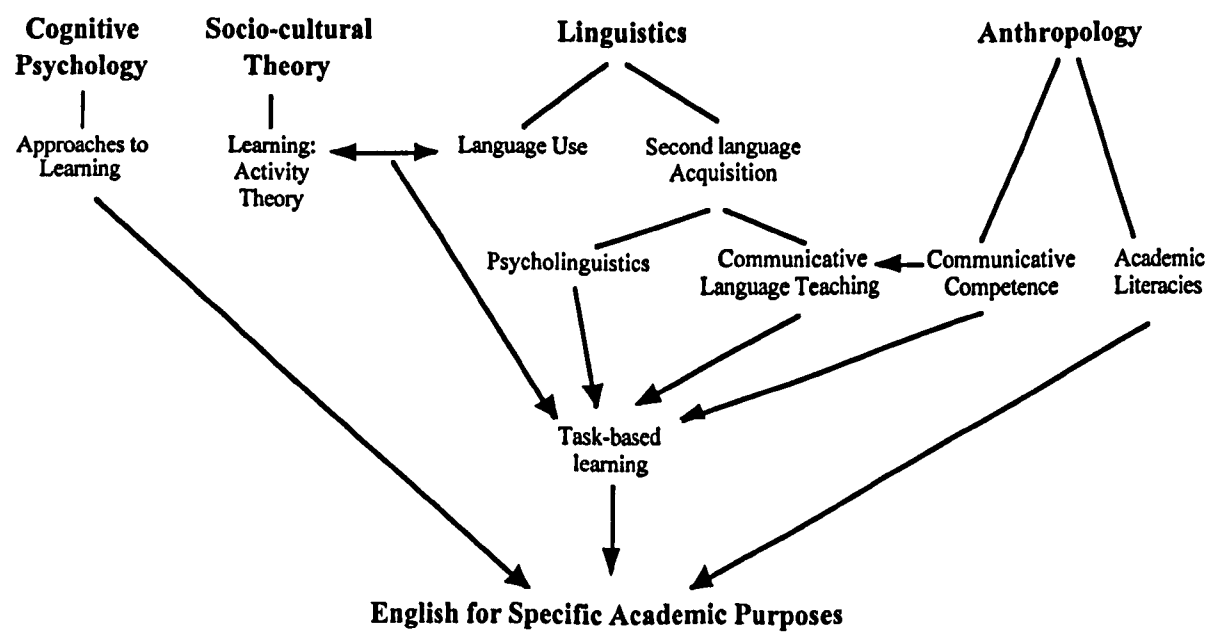


Figure 11.1 sets out the key theoretical contributions to the study. This is explained in more detail

below.

Beginning with Socio-cultural Theory, the influence of Vygotsky on activity theory has played an important pedagogical role in two ways: through the Zone of Proximal Development (ZPD) and in the development of learning through using language as the main tool (Sections 2.3 and 2.5.2).

Two branches of Linguistics have been important: one has been the systemic functional linguistic (SFL) approach to language in use developed by Halliday, which closely complements the Vygotskian perspective on language as a semiotic tool: Halliday's approach emphasising the interorganismic and Vygotsky's approach the intraorganismic (Section 2.3). The other branch of Linguistics is Second Language Acquisition (Sections 2.4 and 2.5.4), within which Psycholinguistics has played a role through four concepts:

- Interlanguage (Section 2.4.1),
- Information Processing (Section 2.5.4),
- Strategic Behaviour (Sections 2.4.2 and 2.5.6),
- Consciousness (Section 2.5.4).

From within SLA pedagogy, Communicative Language Teaching (CLT) has also played an important role (Section 2.4).

From Anthropology and the concept of context as being partly situational and cultural (Malinowski), two directions have been important: one has been Communicative Competence inspired by Hymes (Sections 2.4 and 2.5.3), which has strongly influenced CLT through the work of Brumfit, Canale and Swain, and Savignon. The other is the Academic Literacies approach developed by Street and Lea (Section 2.5.1).

From Cognitive Psychology, two aspects of how students manage their learning have been important: one on approaches to learning through the work of Flavell, Marton and Säljö, and others (Section 2.5.7). The other is on strategic behaviour, particularly in terms of self-regulation, motivation and self-efficacy, through the work of Schunk and Zimmerman (Section 2.4.2).

The potential of a student-centred approach through Task-based Learning (TBL) has developed from the complementary contributions of Vygotsky and Halliday on language as a tool for making meaning, the four psycholinguistic concepts already mentioned, CLT and communicative competence through the work of Bachman, Berns, Bygate, Canale and Swain, Foster and Skehan, Wenden and Willis (Sections 3.4 and 3.5). Particular emphasis has been given to discourse competence and strategic competence.

These have made it possible to position TBL within an ESAP (English for Specific Academic Purposes) framework and to consider the contributions made to TBL within this field, particularly through problem-solving and integrated-skills approaches such as those advocated by Canale, O'Malley and Chamot, Prahbu, Swales and Widdowson (Section 2.5.3; Section 3.5). The added contributions of the Academic Literacies ethnographic perspectives and Approaches to Learning from Cognitive Psychology have enriched the student-centred focus of the research.

This gives the context for the investigation. The integrated skills task-based course provides the framework for investigating the responses of three students in three ways: their level of performance in the written product, the nature and quality of their second language use in the written product, and their approaches to performing the tasks.

The detailed analyses of the three students' responses have been presented in three separate profiles (Chapters 8,9,10). These are now discussed in terms of answering the research questions.

11.2 The Research Questions

The research questions are as follows:

Main research question: Question 1

To what extent and in which ways do students' responses provide evidence of progress in relation to the goals of the IST-based course?

The answer to Question 1 depends on the answers to three subsidiary questions:

Question 1A

To what extent and in which ways does the students' use of English as their second language in their essays show progress in relation to assessment criteria that are based on the goals of the course?

Question 1B

What does a text analysis, inspired by Halliday's ideas, reveal about students' progress in using English as their second language in their essay writing?

Question 1C

To what extent and in which ways do the students' responses show progress through their approaches to the tasks set?

11.2.1 Question 1A

To what extent and in which ways does the students' use of English as their second language in their essays show progress in relation to assessment criteria that are based on the goals of the course?

As a brief reminder for the reader, the four criteria - Overall Impression, Content, Organisation and Language – were designed so that they could be used to assess the level of the students' essays according to five different bands that would predict the students' ability to cope with their future undergraduate studies:

5 (excellent)	Language use will greatly facilitate academic success at undergraduate level.
4 (good)	Language use will facilitate academic success at undergraduate level.
3 (fair)	Language use may facilitate academic success at undergraduate level.
2 (poor)	Language use will hinder academic success at undergraduate level.
1(very poor)	Language use will greatly hinder academic success at undergraduate level.

In response to Question 1A, the four criteria – Overall Impression, Content, Organisation and Language – on the whole reveal similar features for each of the students about their progress but also show differences from student to student. The following is a summary of their progress from the beginning to the end of the course in terms of the criterion for Overall Impression:

- Keiko's marks are the highest, ranging from 3.00 to 4.00;
- Masaki's marks have the widest range, from 2.50 to 3.75;
- Takako's marks are the lowest and range the least, from 1.25 to 2.00.

Keiko, on the whole, starts the course at a reasonable level in all four criteria (Bands 3-4). Then she encounters some problems, slipping back a little on all her marks, with a dramatic drop in Content for K-IST3. But then she improves, more or less maintaining that improvement until the end of the course, with only a slight dip in Language.

Masaki starts the course at a low level in all criteria (Band 2) and improves quite markedly in his second essay reaching Band 3. He then either maintains or slightly improves on this performance throughout the remaining tasks, his best essay being M-IST4, but never quite reaching the same level as Keiko.

Takako starts the course at a very low level (Band 1), improving in her second essay, as does Masaki, where she reaches Band 2. Unlike Masaki, she is not able to maintain this progress in T-IST3 and T-IST4, except in Language. However, in her last essay, she does improve in Overall Impression and, more markedly, in Content.

Overall Impression

Generally, the differences in level and progress are due to differences in addressing the task instruction, in substance, in organisation and in intelligibility. Almost all Keiko's and Masaki's essays are quite substantial and intelligible though Masaki's essays are not as substantial as Keiko's; nor are they as consistently intelligible. Takako's essays fluctuate in how much they address the task instruction and are not very substantial. They are also weak in intelligibility.

All three students make progress but in different ways.

- Keiko, who already writes in well-connected discourse at the beginning of the course, improves by addressing all parts of the instruction directly and in some detail, and by clear organisation of the content;
- Masaki improves by addressing the instruction partly directly and partly indirectly, by organizing the content and by writing in well-connected discourse;
- Takako improves by attempting to address the instruction directly but with difficulty and by using connected discourse so that her writing becomes more intelligible for the reader.

It is interesting to note that the Overall impression Criterion tends to reflect the same overall trend for each of the students as the other three criteria taken overall. Content, Organisation and Language reveal different aspects of progress made by each of the students (see Appendix A-11.2.1).

Content

It should be noted that IST3 revealed itself to be particularly difficult for all the students as shown by a drop in the Content marks, perhaps because of the content of the task itself: the complex task instruction and the technical information input.

Keiko's level is reasonably high to start with (Band 3) and, with the exception of K-IST3, she maintains about this level until the last task where she reaches Band 4 where the Content of her essay is all relevant, comprehensive and incorporates some detail.

Masaki starts with a low Content mark at the beginning of the course (Band 2), improving considerably in the second task (Band 3), and, despite dropping slightly in M-IST3, maintains this level with little further improvement. The content of his last essay, though all relevant, is not as comprehensive as that of Keiko's.

Takako's level is variable, starting extremely low (Band 1) due to problems with relevance and clarity of information, improving in her next essay but falling back to the original low level in T-IST3 and finally improving in focus and substance to reach Band 2 in her final essay.

Organisation

Keiko starts at a reasonably high level (Band 3), slipping back for the next two tasks, then improving in her final two essays and reaching Band 4 in K-IST5 through better ordering of main points and paragraph structure.

Masaki starts at a low level (Band 2), improves immediately and progressively up to reach Band 4 in M-IST4 through organizing the content more closely to address the task instruction and through better linking of points, but slipping slightly back in his last essay.

Takako starts at a very low level (Band 1) and also improves immediately to Band 2, through better overall structuring of her essay, but cannot maintain this level of improvement across the course. Although she makes progress in linking points in her final two essays, she only reaches 1.75.

Language

Keiko's language use is already at a good level (Band 4) at the start of the course. It slips back in her next two essays and then recovers to reach Band 4 again in her final two essays, her highest mark being 4.25 for K-IST4. Her use of discourse is mostly appropriate throughout and, generally, she uses quite a wide range of vocabulary and complex grammatical structure successfully. In other words, given that Keiko's language performance is similar at the beginning and at the end, her progress in this criterion is less observable and a more detailed linguistic analysis is required to note improvements in grammatical complexity.

On the other hand, Masaki, in this criterion, is able to show gradual and steady progress across the whole course (from 2.25 to 3.75). He performs less well than Keiko because there are problems with intelligibility due to the information being too compressed thus leading to problems with grammatical structure. Nevertheless, his essays show systematic improvement in this respect and in fluency, with early improvement in presentation. However, there is still more room for improvement in expression and grammatical accuracy.

Takako is again very different from Keiko and Masaki, showing substantial language

improvement from her first to her second essay, with clear improvement in expression through a better sense of structure and of connected discourse, and better presentation, but not being able to improve beyond the level of Band 2.

Summary

The assessment criteria have been able to show similarities and differences in the profiles of progress of the three students at a general level. The similarities are:

- Progress, but of different kinds, was made by all the students in all four criteria.
- The extent of progress from beginning to end was one Band, regardless of both level and the amount of room for progress.
- Progress was not smooth across the five essays.

The differences in the patterns of marks across the five essays suggest that the following factors were significant:

- Level of English at the start of the course was significant in helping the student to adapt to the IST situation.
- When the marks across the three criteria describing language use – Content, Organisation and Language – were the same and in a high band that indicated a well-balanced essay.
- The dramatic fluctuations in marks shown across the essays, may not have been entirely attributable to the students' efforts but also to problems with task design.
- The marks across the essays revealed that those for Content and Organisation were more closely aligned than those for Language and that the marks for Overall Impression closely reflected the marks for the other three criteria describing language use (see Appendix A-11.2.1).

It is hoped that the textual analysis will be able to reveal progress in greater detail.

11.2.2 Question 1B

What does a text analysis, inspired by Halliday's ideas, reveal about students' progress in using English as their second language in their essay writing?

In order to address Question 1B, the textual function of language used in the students' essay texts has been examined in detail through three aspects: thematic organisation, textual cohesion and lexicogrammar as detailed in Chapter 6, Section 6.2 and Appendix A-6.2.2.

The students' progress

Detailed examination of these three aspects in the students' essays has informed about the nature of the students' different levels at the beginning of the course and about the nature of their progress. Thus it has expanded on the marks given for language use as discussed in addressing Question 1A, i.e. for Content, Organisation and Language.

The features that have emerged as being most helpful in this respect are: the use of hypertheme,

thematic progression (in terms of development and continuity), the distribution of information within the T-unit, cohesion, and linguistic complexity within the T-unit at the lexicogrammatical level.

Each student's progress is now discussed in turn through an account of those key features showing progress across the essays and is followed by a summary of how progress has been made.

Keiko's essays

Thematic Organisation

Hyperthematic distribution

In K-IST1, the hyperthemes are almost all directly relevant to the task instruction and adequately organised. In the next two essays that is not the case but in K-IST4 and K-IST5 there is a clear improvement since all hyperthemes are well-selected and well-organised.

Thematic progression

In K-IST1, thematic progression occurs in short sequences apart from one long sequence of split progression. In the following two essays there is longer sequencing of all progression and, in K-IST3, more simple linear progression. In K-IST4 simple linear progression is more effective because it allows for the inclusion of more relevant detail. The final essay shows even further improvement in this respect because of longer sequencing of simple linear and all progression combined.

Distribution of information within the T-unit

In K-IST1 the empty Theme occurs frequently which partly explains the short sequencing of thematic progression. However, this does not occur in any other essay. The opposite problem arises in K-IST2 where there is considerable information overload in the Theme, partly through the use of lengthy circumstantial adjuncts as Theme. In all the first three essays, new information occurs in the Theme frequently which is not helpful for simple linear progression, whereas in the final two essays the distribution is increasingly better due to new information being more concentrated in the Rheme, although there is a slight decrease in acceptability.

Textual Cohesion

In all Keiko's essays, helpful cohesive devices are used. In K-IST2 they are less frequent than in K-IST1 and in K-IST3, where anaphoric references are particularly helpful. In the final two essays the range of cohesive devices is wider than in the earlier essays and they are used more effectively to draw out links in the content.

Lexicogrammar

Nominalisations are used in all Keiko's essays, though less frequently in K-IST3 than in the other essays. However, in K-IST2, some nominalisations are far too linguistically complex: a phenomenon

not found in any other essay. In the final two essays, nominalisations and passive verb forms are better used to effect a scientific type of discourse (Halliday in Halliday and Martin 1993).

The key textual features showing progress in Keiko's essays

Concerning the relationship between the assessment criteria and the text analysis, Keiko's marks for Content and Organisation across the five tasks can be partly explained by her progress in the selection and organisation of hyperthemes. These are weakest in K-IST2 and K-IST3, possibly reflecting problems with the task content, because there is a dramatic improvement in the remaining two essays.

Progress in the distribution of information across the essays, which influences the extent of thematic progression, also explains the Organisation marks. In K-IST1, K-IST2 and K-IST3 (where the Organisation marks are 3.50, 3.00 and 3.00 respectively) thematic progression is limited because new information is introduced in the Theme several times and in K-IST2 the Theme is overloaded. Here, at the lexicogrammatical level, too much information has been nominalised causing excessive linguistic complexity, which explains the lower Language mark (3.00), although it is commendable as a risk-taking strategy on Keiko's part. In the final two essays, the new information is increasingly positioned in the Rheme, which allows longer sequencing of simple linear progression. This in turn leads to more thematic development including at the level of detail and thus explains the higher marks for Content (3.50 and 4.00 respectively) and Organisation (3.75 and 4.00 respectively).

Another factor is Keiko's use of cohesive devices which reflects the pattern of marks for Organisation and Language across the essays. They are less effective in the second and third essays than in other three essays. In K-IST3, even though structurally sound, they do not help the Organisation of the content, probably because of weaknesses in the content itself. In the final two essays they range more widely and, particularly in K-IST4, draw out the links in the content thus explaining the very high Language mark (4.25).

The higher marks for Language in the final two essays reflect the more appropriate scientific nature of the discourse at the lexicogrammatical level. Keiko's last essay, where all four marks (Overall Impression, Content, Organisation and Language) are at the same high level (4.00), is a much better balanced essay than any of her earlier essays because, through hyperthematic organisation, other features seem to have fallen into place: thematic progression, cohesion and lexicogrammar.

To summarise, Keiko's essays, which generally had the highest marks, show evidence of clear progress in using hyperthemes in her fourth essay and further progress in linking and developing them in her final essay, through better thematic progression and better use of cohesive devices. In her third essay thematic development begins to improve, reaching a level in her final essay where more relevant detail is incorporated than in all the other essays as well as an enhanced sense of appropriateness in the linguistic complexity of circumstantial adjuncts and of nominalisations.

Masaki's essays

Thematic Organisation

Hyperthematic distribution

In all Masaki's essays the hyperthemes are relevant to the task instruction. In his second and third essays, the hyperthemes lead to more comprehensive coverage than in M-IST1. However, there is extra information at the end of M-IST3 which does not fit into the overall distribution thus explaining the slight drop in the Content mark. M-IST4 has the best set of hyperthemes. They provide substantial coverage over the whole essay and are particularly well-selected in terms of the balance of information which is less the case in M-IST5.

Thematic progression

In M-IST1, split progression is used extensively to organise the information as an economical device for presenting information that is not in connected discourse. In M-IST2 progression is mixed. There is longer sequencing of simple linear progression which helps thematic development but there are also a few isolated T-units. In Masaki's third and fourth essays, the ratio of simple linear to constant progression is much higher and allows more thematic development. M-IST4 has longer sequencing of all progression combined, thus giving more thematic continuity, and one complex unit of split progression, which is particularly helpful for organisation. In M-IST5, there is longer sequencing of all types of progression, separately and combined, but no split progression.

Distribution of information within the T-unit

In Masaki's first and third essays there are problems with information overload in both Theme and Rheme. Also, in his early essays, the occurrence of new information in the Theme increases in frequency up to M-IST3, thus tending to hinder thematic development, whereas in the final two essays it is much reduced, thus helping thematic development. In all his essays, new information occurs very frequently in the Rheme and, in the final two essays, in the Rheme of every T-unit, which is also helpful for thematic development.

Textual Cohesion

There is a sense of cohesion in all Masaki's essays through his uses of cohesive devices. In M-IST3 and M-IST4 a wider range of devices is used than in the early essays. An even better range is used in M-IST5 through the increased use of circumstantial adjuncts.

Lexicogrammar

Nominalisations, particularly simple nominalisations, are typically used in all Masaki's essays, and with increasing frequency and effectiveness. In his first essay they sometimes tend to be too long and linguistically complex, causing information overload. However, there is a gradual improvement as they

become shorter and more appropriate in his final essays. Passive verbs forms are generally acceptable. They are most frequently used in M-IST3 in a technical genre, which does not occur in his other essays.

The key textual features showing progress in Masaki's essays

The relationship between the assessment criteria and the text analysis reveals two points at which Masaki makes clear progress: after his first and his third essays.

The first point of progress is in his second essay where the hyperthemes are better organised and provide more comprehensive coverage than in his first essay and the better distribution of information in the T-unit allows more thematic development, thus raising the Content mark (from 2.75 to 3.50) and Organisation mark (from 2.75 to 3.25). In his first essay the content is kept very general partly because of the frequent use of split progression, which, though a useful organisational device, limits the amount of detail that can be included. Masaki's Language mark is also much higher in his second essay, moving up a whole band to 3.25. This is because there is less information overload than in the first essay, caused by too much linguistic complexity at the lexicogrammatical level. But this same problem recurs to a lesser degree in his third essay, causing problems with cohesion which explains why neither the Organisation mark nor the Language mark improves. Here, at times, a technical genre is used – a phenomenon that does not occur in any other essay. Although it interrupts the flow of the discourse it is nevertheless interesting in terms of the jagged nature of Masaki's progress.

The second point of progress shown by the marks is in M-IST4. Three main reasons are: an increase in the range of cohesive devices that enhance thematic progression, thus explaining the higher marks for Content (3.50) and Organisation (4.00); the complex but very effective use of split progression thus explaining higher mark for Organisation; and the absence of information overload thus explaining higher marks for Organisation and Language. The Language marks show increasing progress in the final two essays (3.50 followed by 3.75): partly because of the lexicogrammar features being used for writing about science-related topics and partly because of the increased use of circumstantial adjuncts, both phenomena revealing an enhanced sense of appropriateness in grammatical complexity. Unfortunately, the improvements in Content and Organisation are not so well realised in Masaki's final essay.

In summary, although Masaki's essays generally have a lower level than Keiko's essays, they show that he is better at the outset than both Keiko and Takako at selecting and organising relevant hyperthemes. Then, he improves in linking and developing them, both in his second essay (through longer sequencing of simple linear progression) and in his fourth essay (through better use of thematic progression, especially of split progression, and through better use of circumstantial adjuncts). However, this improvement is less evident in his final essay.

Masaki makes less progress in thematic development than does Keiko, mainly because his essays are shorter and do not include as much detail. His progress is due mainly to a reduction in information overload, particularly in the use of nominalisations, and to better distribution of information within the T-unit. In his final essays, the more appropriate distribution of information is also better linguistically and in writing scientific discourse.

Takako's essays

Thematic Organisation

Hyperthematic distribution

The hyperthemes in Takako's essays do not generally provide well-balanced coverage of the content because they tend to relate to the topic rather than to the task instruction. In T-IST2 some are more relevant to the task instruction and are better organised than in T-IST1. In T-IST3 they vary in relevance and again the balance is poor with some hyperthemes being too detailed and others too general so that both Content and Organisation are weaker than in T-IST2. In T-IST4 there are more acute problems with relevance but the hyperthemes are better organised. In Takako's final essay, her shortest, the hyperthemes are more relevant but are not as well organised as in T-IST4.

Thematic progression

Thematic progression occurs frequently in T-IST1 but only in short sequences and it is weaker towards the end of the essay. In T-IST2 there is some thematic development through longer sequencing of simple linear progression, there is more thematic continuity through progression taken up in the Rheme and there are no isolated T-units, in contrast to all Takako's other essays. In T-IST3, there is less thematic development and more thematic continuity than in T-IST2. In T-IST4 there is longer sequencing giving slightly more thematic development and thematic continuity than in T-IST3. But it is more patchy because there are more isolated T-units than in any other essay: some occurring consecutively towards the end of the essay, which give a weak ending. Takako's final, much shorter, essay has more thematic continuity but thematic development is weaker.

Distribution of information within the T-unit

In all Takako's essays, information in the Rheme occurs frequently but many cases are unacceptable. T-IST2 is better than T-IST1 in this respect; but it also has more frequent occurrences of new information in the Theme which weakens progression, and in T-IST3, this happens even more frequently. However, in the final two essays, there is an improvement. In T-IST5, new information in the Rheme occurs in every T-unit which helps progression. But, across the essays, a persistent rise in the frequency with which the information is found unacceptable is a problem, which is worst in the final essay.

Textual Cohesion

A range of cohesive devices is found in all Takako's essays but acceptability with anaphoric references is a problem in T-IST1 and T-IST4. However, in her final essay, these are effective in helping cohesion. The frequency of using circumstantial adjuncts as Theme fluctuates with many more in T-IST2 than in all the other essays.

Lexicogrammar

Nominalisations are used much more frequently in all Takako's essays after T-IST1. Passive verb forms are used in all her essays but problems with acceptability occur in T-IST2 and T-IST4. In her final essay

there is a clear improvement.

The key textual features showing progress in Takako's essays

In all Takako's essays there are problems with the selection and organisation of hyperthemes which explains the pattern of fluctuating low marks for Content and Organisation. As already indicated, her marks reveal two points at which she makes some progress: in her second and her final essays.

Her second essay is better focused than T-IST1 because some hyperthemes are more relevant. The Organisation mark peaks in this essay at 2.00 due to better hyperthematic organisation, better thematic progression due to longer sequencing and an absence of isolated T-units. Her Language mark is higher by one whole band, 2.25, mainly because new information is more frequently acceptable, as are anaphoric references, and nominalisations are used more frequently. Also more cohesive devices are used, which, being more wide-ranging, add textual variety. However, in the remaining three essays, these improvements are not carried further. Anaphoric references fluctuate in acceptability, particularly in how far they help cohesion, and passive verb forms fluctuate in linguistic acceptability.

Takako's third essay falls back in Content (1.50) and Organisation (1.50) because the selection of hyperthemes causes a weaker balance of content thus affecting progression and cohesion. Also the more frequent occurrences of new information in the Theme hinders development through progression. Progression improves in her next essay, but this only slightly raises her Organisation mark to 1.75 because of the isolated T-units occurring sequentially at the end.

In her final essay the much higher Content mark (2.25) can be explained by a clear improvement in the selection of relevant hyperthemes. But the Organisation mark does not change because there is no improvement in thematic progression. Although new information occurs in every Rheme, many times it is not acceptable; it permits more thematic continuity but not development. This also explains why there is no further improvement in the Language mark.

To summarise, Takako's essays, having the lowest level, show progress in the selection and organisation of more relevant hyperthemes in her second and final essays than in her other essays: her final essay being slightly better due to better linking and developing of hyperthemes.

Her essays improve in thematic continuity supported by better cohesion through using anaphoric referencing. There is less improvement in thematic development because, although there is better distribution of information in the T-unit, it is frequently unacceptable at the lexico-grammatical level thus not helping progress at the textual level. As mentioned earlier, the ISTs may have been too linguistically demanding for Takako under the IST conditions (Stern 1990).

Summary

The textual analysis reveals certain features of the students' language in use that influence progress in writing the essays thus explaining the different marks given in terms of the assessment criteria. Those features that hindered progress are:

- inappropriate selection and organisation of hyperthemes in terms of relevance and coverage,
- frequent occurrences of new information in the Theme rather than in the Rheme,
- weak thematic development due to
 - a) frequent occurrences of the empty Theme,

- b) short sequencing of simple linear progression,
- c) long sequencing of constant progression,
- d) isolated T-units in sequence,
- e) overuse of split progression,
- information overload through experimenting with linguistic complexity in the use of nominalisations,
- lack of cohesion through the inadequate or inappropriate uses of cohesive devices, particularly anaphoric referencing,
- unacceptability of circumstantial adjuncts, nominalisations and passive verbs due to weaknesses in linguistic structure.

As might be expected from this type of analysis, the student's progress becomes evident at the different strata, which are interconnected (Martin 1992; Halliday 1994), thus explaining how a better sense of texture is achieved.

- At the textual level, there is an improvement in the selection and organisation of hyperthemes creating a better coverage and balance of content.
- At the inter-T-unit level, there is an improvement in thematic development through longer sequencing of simple linear progression in relation to constant progression, and more appropriate split progression.
- At the inter-T-unit and intra-T-unit levels, more appropriate cohesive devices, particularly anaphoric references, produce better texture.
- At the intra-T-unit level, less complex uses of nominalisations and more grammatically acceptable uses of passive verbs show a more developed sense of writing scientific discourse.

For Keiko this sense of texture is evident at the outset but improves noticeably in her final two essays; for Masaki it begins to be visible in his second essay and improves in his final two essays; for Takako, it only begins to be visible in her final essay.

11.2.3 Question 1C

To what extent and in which ways do the students' responses show progress in relation to their approach to the tasks set?

Unlike the responses to the research questions 1A and 1B, where the evidence is drawn from the actual product, i.e. the students' essays, the evidence for responding to this question comes from either what the students were doing in the process of preparing their essays, e.g. using dictionaries, writing drafts, and/or what they reported in the interviews about they were doing to produce each essay. In other words, the response to this question is about the sorts of approaches the students adopted to help them make progress across the five tasks. As mentioned in Chapter 6, Section 6.3.1, three categories of approach

were used: 'deep', 'strategic' and 'surface'. The deep/surface distinction was first suggested by Marton and Säljö (1976) and the strategic category emerged later (Entwistle 1997).

As described in Sections 11.2.1 and 11.2.2, all the students made some types of progress but this was very variable from student to student.

Keiko

Keiko had the best overall performance profile, starting and finishing with higher marks than the other two students, although perhaps her real progress was slightly less than that of Masaki's progress due to her high starting point. (Such a phenomenon is sometimes observed with students who are performing well because there is less room from improvement or because reaching the higher level is more difficult.) Keiko consistently adopted the same deep approach in all five tasks which was critically conceptualising the task demands in relation to her own performance and abilities. It seems that she found this approach helpful for developing her use of certain types of strategic approach over the course after each task experience. These were: analysing the task instruction and closely following the task procedure. Once she had gained some control over the task demands, she moved forwards in her strategic approach to improve her performance by including more relevant detail. She also developed a deep approach further by relating the task demands to her long-term progress in using English and, towards the end of the course, refined her strategic approach to focus on the features that interested her, which is an important aspect of her progress. She experienced some difficulties with two tasks and, in addition to the other approaches she was already using, she assisted herself by using types of surface approach as short-term measures to address those difficulties. She did not use these in any other task. In fact it would appear that she capitalised on her experiences of addressing each IST to conceptualise the task demands in more depth so that she came to think about them in relation to her long-term development. Thus she managed her progress.

Masaki

Masaki's performance profile, though at a lower level than Keiko's, shows that he made steady progress from beginning to end. He began by using the same types of deep and strategic approach as Keiko (thinking about the task demands in relation to his own abilities and carefully analysing and following the task instruction). However, after the first task, he switched to another strategic approach, thinking more about the content of the input in relation to output, but continued using a deep approach of seeking to understand his own abilities and thus made noticeable progress on the second task. In the early tasks he also needed to use short-term measures to overcome difficulties he was having and resorted to a surface approach, spending more time on output processing at the expense of input processing. In the third task, he reverted to types of deep and strategic approach that he had used in the first task (thinking more about the task demands and following the instructions given) and stayed with them for the rest of the course. In this same third task, he adopted two other types of strategic approach to improve his output (consulting dictionaries and writing drafts of his essays), and consistently used them for the remainder of the course thus developing more control over managing the tasks. Interestingly, over the three middle tasks, Masaki meticulously self-monitored his progress. He was the only student to do this and perhaps it helped him to make the sudden leap in his second essay and

progress towards achieving his best performance in his fourth essay where he was beginning to critically appraise the task in relation to his long-term interests.

Takako

As already mentioned, Takako had more difficulties than the other students and so has the weakest performance profile. Although she began by adopting a deep approach to think about in what ways and how well she could address the task demands, she tended to adopt a different strategic type of approach in different tasks and to resort to a surface approach, thus relying heavily on short-term measures to address each task in turn. For example, she moved away from one helpful strategic approach (following the task instruction) to using a more compensatory type of strategic approach (using a familiar learning style) and a coping type of strategic approach (aiming to produce a completed essay). This did not help her to develop her understanding of the task demands. She adopted a surface approach in all the tasks, the most frequent being relying on trial and error performance, which did not help her to gain control over her working. However, in the final task she started adopting a more practical strategic approach: using the dictionary and making extensive notes of the content. Thus it seems that she was beginning to find a way of gaining some control over her working on the tasks.

Summary

The students' responses show progress through adopting approaches to the tasks as follows:

- deep and strategic types of approach rather than a surface type of approach;
- systematic use of deep and strategic types of approach;
- systematic use of analytic, skills-oriented and/or self-regulative types of strategic approach in consecutive tasks because any of these types could:
 - be refined and developed across the tasks and lead to task control and automaticity;
 - enhance a metacognitive understanding of the specific task demands in relation to ability;
- use of compensatory or coping types of strategic approach or a surface approach only to address immediate difficulties that could not otherwise be resolved.

A final, more speculative point is that the systematic use of holistic and/or reflective types of deep approach seemed to guide the students in the selection of a helpful strategic approach, which supports Marton and Säljö's findings (1997).

11.2.4 Question 1

To what extent and in which ways do students' responses provide evidence of progress in relation to the goals of the IST-based course?

As a reminder, the goals of the IST-based course are to help students use their English in a way that helps them with their academic studies at undergraduate level in an English-medium university. They had five integrated skills tasks to do, each with the same format, requiring them to write an essay by the end of the task session.

This main research question is addressed by bringing together the three aspects of the students'

responses that have already been discussed separately in addressing the three subsidiary questions: 1A, 1B and 1C, each one revealing the nature of the students' progress in different ways.

Keiko

Keiko's marks shifted from ranging between Bands 3 and 4 at the beginning to all being at Band 4 at the end which predicts that her language use would facilitate her academic success at undergraduate level.

K-IST1 (OI=3.50; C=3.50; O=3.50; L=4.00)

Keiko's marks for her first essay are favourably high. The Content and Organisation marks can be explained by the selection and organisation of hyperthemes, which address the task instruction fairly well while the Language mark can be explained by the effective use of cohesive devices and lexico-grammatical features. It seems that the deep and strategic approaches that Keiko adopted were very helpful for addressing the task.

K-IST2(OI=3.25; C=3.25; O=3.00; L=3.00)

K-IST3(OI=3.00; C=2.50; O=3.00; L=3.50)

Here all her marks are lower because hyperthemes are less well-selected and organised, particularly in K-IST3, and, in K-IST2, too much new information is presented in the Theme giving weaker thematic progression and too much linguistic complexity causing information overload. Although Keiko adopted the same deep and strategic approaches as in IST1, she also had to resort to a quick-fixing type of surface approach to address the difficulties she encountered with both tasks.

K-IST4(OI=4.00; C=3.50; O=3.75; L=4.25)

K-IST5(OI=4.00; C=4.00; O=4.00; L=4.00)

In these final two essays, Keiko's marks show clear progress, especially in her final essay where the marks are all the same indicating a well-balanced essay in Content, Organisation and Language. This is because hyperthemes are well-selected and well-organised, especially in K-IST5, where they address the instruction very clearly and are also better developed and better linked through thematic progression. In both essays, the range of cohesive devices and lexico-grammatical features is more appropriate and consequently more effective than before. She continued using the same helpful deep and strategic approaches, thus probably automatising her way of working, furthering her understanding of the task demands and thinking more about her long-term development.

Masaki

Masaki's marks shifted from being at different levels within Band 2 to different levels within Band 3 which predicts that his language use might well facilitate his academic success at undergraduate level.

M-IST1(OI=2.50; C=2.75; O=2.75; L=2.25)

Masaki's marks for this first essay are quite low because he had partly written it in note form. Although all the hyperthemes are relevant to the task instruction and well-organised there is very little

development because of excessive use of split progression, linguistically complex nominalisations and a numbering reference system as an economical device to present the content. He seems to have adopted the same deep and strategic approaches as did Keiko but resorted to a surface approach to complete the task.

M-IST2(OI=3.25; C=3.50; O=3.25; L=3.25)

M-IST3(OI=3.25; C=3.25; O=3.25; L=3.25)

In M-IST2 the marks show a clear improvement over the first essay because there is more content coverage, better thematic development and better cohesion since both essays are written entirely in connected discourse. Nominalisations are shorter and the hyperthemes are slightly better selected than in M-IST3. In both these tasks Masaki used the same deep approach but adopted a new strategic approach that focused more narrowly on self-monitoring input and output processing and another surface approach to address other difficulties that he encountered.

M-IST4(OI=3.75; C=3.50; O=4.00; L=3.50)

M-IST5(OI=3.50; C=3.25; O=3.50; L=3.75)

Here, Masaki's marks show further progress. The higher Content mark in M-IST4 can be explained by the use of hyperthemes, which provide more relevant, comprehensive and balanced coverage of the task; Organisation is enhanced through more effective thematic progression, particularly in using split progression; and the Language mark can be explained by a wider range of cohesive devices and even more appropriate nominalisations thus improving the lexico-grammar. In IST5, the topic, being both technical and biological, was probably less familiar for Masaki, which would account for the slight dip in marks in M-IST5. Masaki used the same deep and strategic approaches as in IST1 and IST3, including self-regulation, refining them further and, in M-IST5, probably concentrating more on expression than on the content. He used no surface approach.

Takako

Takako's marks shifted by almost one band, from different levels within Band 1 to different levels around Band 2 so that it was only possible to predict that her language use would still hinder her academic success at undergraduate level. The course was probably too difficult for her to make any significant progress and consequently the improvements she made were always at a lower level than, and different to, those made by Keiko or Masaki.

T-IST1(OI=1.25; C=1.50; O=1.00; L=1.25)

Takako's marks for her first essay are very low in all four criteria mainly because of the following weaknesses: poorly selected and organised hyperthemes, limited thematic progression and cohesion, and limited linguistic expression. Although she seems to have adopted deep and strategic approaches, she encountered difficulties with the content and resorted to a surface approach, probably to complete the task.

T-IST2(OI=2.00; C=2.00; O=2.00; L=2.25)

T-IST3(OI=1.75; C=1.50; O=1.50; L=2.25)

T-IST4(OI=1.75; C=1.50; O=1.75; L=2.25)

T-IST5(OI=2.00; C=2.25; O=1.75; L=2.25)

In T-IST2, there is a clear improvement in all the criteria because hyperthemes are better selected and organised, there is more thematic continuity and more textual variety through better anaphoric referencing and greater use of circumstantial adjuncts and nominalisations. After that the marks fluctuate dipping down to Band 1 for all but Language and rising to Band 2 again in T-IST5. The language marks are the highest but stay the same because of problems with anaphoric referencing and expressing new information. The mark for Organisation stays in Band 1 but the Content mark improves due to better selection of hyperthemes and thematic continuity, although the essay is much shorter than her previous four essays. In all four tasks Takako seems to have adopted a deep approach to focus more narrowly on the immediate demands of the task. She also seems to have resorted to a compensatory type of strategic approach and continued to resort to a surface approach to address persistent difficulties.

11.3 Discussion of the Findings

The study has produced three distinct profiles of student progress in an Integrated-Skills-Task-based Course within an ESAP context. From these, five sets of findings have emerged. There are two main sets of findings about the students' progress in their essays. One is the progress revealed by the marks according to the four assessment criteria. The other is the progress revealed by the text analysis. A third, more tentative set of findings, is about the progress revealed by the approaches adopted to address the tasks. Related to these substantive findings is another set of findings about the methodology used to investigate the students' progress through their essays. A final set of findings is about the pedagogical value of the course as a context of learning.

11.3.1 Progress shown by the marks

The main finding is that overall progress was made in all three students' essays but it was more evident in the essays of the two better students than in the essays of the weakest student, who probably had difficulty managing her progress through working on the tasks. The marks show similar progress in that all the students improved by approximately one band across the tasks but the profile of progress was different for each student. One aspect that characterised progress was that it was not smooth but had jagged aspects; it happened at different levels and at different points in the course. From a comparison of the three students' marks across their essays from the beginning to the end of the course, the following observations emerged.

The students' marks for their performances in their first essay were at different levels which could reflect how well and how quickly they were able to familiarise themselves with addressing these ISTs. Schumann suggests that students vary in the degree to which they are able to acculturate to a new SLA environment (1978); Gardner's socio-educational model of language learning reinforces this with reference to the formal setting (1985). It is possible to interpret the marks of the students' essays in this study in a similar manner since they show that the student with the highest marks was able to adapt to

the IST situation more quickly and easily than could the other two, who needed more time and practice. They did so in the second task.

The marks for the best student in the second task drop which could mean that her high-level performance shown in her first essay might be explained by a phenomenon suggested by Schön – ‘spontaneous intuitive understanding’ (1983:227) – which was then interrupted by an emerging awareness that the task demands needed to be more deeply understood. Also this intuitive understanding may have been hindered by IST3, which is known to have been difficult for all the students. Her awareness of the demands may have developed more securely later in the fourth task when she made a clear recovery, followed by an even better all-round performance in her final essay. A helpful perspective on the nature of the progress of the best student is suggested by Werner’s concept of hierarchical integration (1948 in Strauss 1972:347), which means regulating and consolidating a more developed system of addressing the task demands. Although these possibilities are highly speculative, they are important in exploring the underlying factors that might explain progress.

The second student who, having improved markedly in the second task and then stayed at about the same level in the next task, IST3, further improved in the fourth task. Given the nature of his performances in the last two tasks, e.g. better distribution of information in the T-unit and more appropriate writing in a scientific genre, it is possible that he could build on these features to make further improvements in the future. However, since this is the first time the criteria and band descriptors have been used in this manner, care needs to be taken with making predictions.

The performances of the weakest student may be explained by one or all of three related factors: the fact that the experiential activity of the tasks may have been too linguistically demanding, as could be the case (Stern 1990); her limitations in language learning aptitude, which is widely thought to be the most reliable predictor of achievement in a second language (Gardner & MacIntyre 1992, McLaughlin in Harley et al. 1990); and/or her affective filter may have been so high that it prevented her from thinking clearly about each task (Dulay & Burt, 1977) despite the opportunities for negotiation and collaboration, as advocated by Swain (2000), being in place in the pre-post-task sessions. Her dramatic improvement in the second essay was followed by a regression and finally a recovery, but with low marks so that predictions about her further progress are difficult to make.

11.3.2 Progress shown by the text analysis

The second main set of findings showed that a fine-grained text analysis was able to provide more detailed information about the students’ use of English, which added to the information provided by the marks given according to the assessment criteria. This was achieved because the text analysis revealed the ways in which progress was made by all three students in achieving a better sense of texture, where the text has the property of functioning ‘as a unity with respect to its environment’ (Halliday and Hasan, 1976:2). In other words the text is partly shaped by the context within which it is situated: i.e. that described by the task instruction.

In this respect the text analysis revealed progress in texture in four ways. Firstly, it has informed about the nature of the jaggedness of the students’ progress. Cummins (2001) explains how this phenomenon can occur in the development of second language proficiency along two intersecting continua – cognitive demand and context embeddedness. He argues that the struggle to ‘make complex

meanings explicit' requires practice and the text analysis has shown how the students' linguistic resources are being stretched in distinct ways which is a sign of progress, but often a jagged one.

The best example of this is to be found in the essay written by the middle student for IST3 where the marks are almost identical to those for IST2. Although his marks do not show evidence of progress, given the specific difficulties of IST3 and the fact that his marks did not drop, this could mean that he was making progress. The text analysis reveals some jaggedness in M-IST3 because of occasional uses of technical genre in certain places where scientific information is added in the text, and particularly outside the hyperthematic organisation in the final two T-units, where passive verb forms are used appropriately and frequently. This occurs only in one essay, possibly indicating a realisation of the usefulness of the passive verb form to explain scientific phenomena. Two other examples can be found in the essays of the strongest student: one through the distribution of information, which improves in her later essays but causes a few problems with acceptability, thus indicating that she needs further practice in using language both appropriately and accurately. The other is an improvement in her use of the complex pattern 'Not only ...but...', which she seems to have experimented with in her second essay causing thematic overload; but this does not happen in her fourth essay. In the essays of the weakest student the somewhat jagged profile could have arisen for a number of possible reasons. The first is in the selection of the hyperthemes, which, in the fourth essay, explore the topic well beyond what directly relate to the task demands so that progress is held back until the final essay. The second reason is to do with consecutive isolated T-units, which occur in varying degrees in all but her second essay: most frequently in her fourth essay. Thirdly, in both the second and fourth essays the use of passive verb forms has a much higher percentage of unacceptability: in clear contrast to the other three essays. This particular jaggedness is only a part of the whole picture and thus is not reflected in the marks.

The second way in which the text analysis has revealed progress in texture is in selecting, organising, linking and developing hyperthemes relevant to the task instruction, which provided the contextual framework for each IST. Improvements at the textual level also meant that improvements were to be found at all strata, down to the linguistic complexity of nominalisations at the level of lexicogrammar. In short, what underlies a sense of texture are: firstly, the organisation of content that is relevant to the task instruction, and using appropriate and acceptable linguistic devices that reveal this organisation. Essentially, this is described by the dependency of the different strata upon one another: the textual (through using hyperthemes), the inter-T-unit (through thematic progression and using cohesive devices), the intra-T-unit (through the distribution of information and using cohesive devices) and the lexicogrammar (through using lexicogrammatical features). (Martin 1992, Halliday 1994).

Thirdly, the text analysis revealed progress in awareness of creating a text that has the texture of scientific writing as evident in the later essays of the two better students. As Halliday shows, in writing about science-related matters, it is frequently the case that the Theme is carefully selected as the point of departure for describing the result of a step in a process where the Actor has no role (Halliday in Halliday and Martin 1993:58). This means that the information is typically represented through using the passive, as well as nominalisation. In other words, the nature of the content is reflected through the discourse genre that is used (Swales 1990).

A fourth way in which the text analysis has informed about progress is in revealing the writer's

awareness of the reader. Students have their own individual styles of writing and certain differences in the students' essays reflected a measure of understanding of the writer-reader relationship. Hoey (2001) points out that sometimes second language users display a lack of awareness of the reader's perspective in their academic writing. The early essays of all three students in the study reflect a concern with writing down the information that needed to be transmitted rather than with the reader understanding what was being transmitted. This is exemplified by early problems with the distribution of information, information overload within the clause complex and a lack of cohesion between items of information. All the later essays, particularly those of the two stronger students, indicate a much better awareness of communicating with a reader: for example, at the inter-T-unit level, through better thematic development and the disappearance of information overload and, in those of the weakest student, through better anaphoric referencing.

11.3.3 Progress revealed by the students' choices of approaches

Two more tentative findings have emerged from an analysis of the other sources of data - the post-task one-to-one interviews and the micro-tasks - that revealed the types of approaches adopted by the students during the process of preparing their written responses to the task.

The study adopted the theoretical framework that resulted from the phenomenographic approach taken by Hounsell (1984) and Marton et al. (1997) to examine the students' approaches to the task demands and the first finding shows similar results to those of Laurillard (in Marton et al. 1997:137), that a deep approach leads to higher level of learning outcomes than a surface approach, and of Entwistle (in Marton et al. 1997:19), that a strategic approach is both necessary and effective under certain imposed conditions of learning. This finding would appear to be in line with the suggestion of Marton and Säljö (Marton et al. 1997), which is supported by Webb and Prosser (1994), that there is a close relationship between 'depth of processing and quality of outcome' (Marton et al. 1997:46). In other words, a deep approach and most types of strategic approach were found more helpful for making progress in producing the essay than a surface approach or a compensatory or coping type of strategic approach.

Still in relation to this link between process and product, in the cases of the two better students in this study, it was also found that progress reflected by the essay marks and the textual analysis might be partly explained by the continuous use of helpful deep and strategic approaches leading to better task control followed by automaticity (see Chapter 2, Bialystok 1994). In other words, when certain related deep and strategic approaches across the tasks were used consistently across three or more tasks by the better two students, it was possible to see progress in

- producing a balanced essay in terms of Content, Organisation and Language;
- selecting and organising relevant hyperthemes so that thematic progression would lead to thematic development and to the incorporation of relevant detail;
- the distribution of information between the Theme and Rheme to promote thematic development, cohesion and the use of appropriate lexicogrammar;
- a sense of texture in the writing of scientific discourse.

The second tentative finding is that three reasons for the three students choosing certain types of approach at certain points in the course emerged:

- to develop their second language use with a view to their long-term academic goals;
- to address the interesting features of any one task;
- to deal with immediate difficulties found with the task.

The more the students concentrated on developing their second language use to help their long-term academic goals the more consistent they were in using a deep approach or certain types of strategic approach: viz. analytical, skills-oriented or self-regulation. This is in line with the findings of Marton and Säljö (1997:52) that a deep approach was identified with insights about long-term improvement and, in the light of this, with taking decisions about which strategies to adopt.

It was also noted that if the students became interested in the topic or found that the task contained certain distinctive features that were different from those in the other tasks, they would adopt a different type of deep, strategic or surface approach to address the specific nature of any one task. This is similar to the findings of Laurillard (in Marton et al. 1997:104) that the students' different performances could be explained by considering their perceptions of the task demands, of their abilities and the relationship between the two.

However, as Marton & Säljö (1997) found in their research, the more the students concentrated on dealing with immediate difficulties the more they appeared to adopt a compensatory or coping type of strategic approach or a type of surface approach as a short-term measure to 'reach a solution'. Marton & Säljö concluded that this was because such difficulties were perceived 'to be unresolvable'. As Laurillard (in Marton et al. 1997:104) argues, a surface approach could be a prudent way of addressing a difficult task as a short-term, 'quick-fix' measure even though it resulted in a lower quality of essay, as described by the marks, according to the assessment criteria, and the text analysis. Adopting a surface approach in such circumstances is a rational and efficient way of addressing a local problem.

However, dependency on a surface approach in all five tasks, as shown by the weakest student, is likely to be due to a more general problem with using the second language to express the intended meaning (see Chapter 2, Newman & Holzman 1993). Switches in attentional focus between domain knowledge and linguistic features, which appears to have been one of that student's problems, could occur in a way that is not helpful to addressing the task instruction and consume 'attentional resources' (see Chapter 3, Skehan 1996).

11.3.4 The methodology used to investigate progress in the students' essays

Reinforcing the points made in Section 11.3.1 from a methodological perspective, the three assessment criteria, Content(C), Organisation(O) and Language(L) combined, were intended to describe Language Use, while the fourth assessment criterion, Overall Impression(OI), was intended to provide a general impression (see Chapter 6). The marks given for OI were not intended to be a summary of C,O,L; however, they were close enough to indicate clear compatibility with the three in combination. Thus, it is evident that the band descriptors for all four criteria together were able to provide a holistic description of the level of each essay in terms of predicting how well the student's use of English would facilitate their future academic studies. Hence, they were also able to describe the nature of each student's progress in their essays across the five tasks in terms of the criteria.

Drawing from the points made in Section 11.3.2, from a methodological perspective, the text analysis of the students' essays provided detailed evidence that expanded on the holistic information

provided by the marks given according to the assessment criteria. It was proposed to use the Hallidayan-based framework in order to be able to reveal the ways in which C,O,L combine interdependently to describe language use. This type of analysis has not been done before but the following links between the assessment criteria and the analytical framework appeared to work reasonably well in the cases of the three students and can therefore be regarded as a reflexive finding:

- At the contextual and textual strata, the selection and organisation of hyperthemes provided evidence for C (selection) and O (organisation).
- At the textual (inter-T-unit) stratum, thematic progression provided evidence for O (development and continuity, cohesion).
- At the intra-T-unit level (clausal stratum), the distribution of information in the T-unit provided evidence for O (distribution of new information and the existence of no information, frequency) and L (frequency, acceptability).
- At the textual and clausal strata, the cohesive features (conjunctive adjuncts, other conjunctives and anaphoric references) provided evidence for O (cohesion, frequency) and L (frequency, acceptability).
- At the lexico-grammatical stratum, the lexico-grammatical features (nominalisations and passive verb forms) provided evidence for L (frequency, acceptability).

11.3.5 The Pedagogical Implications of the Study

Two aspects are discussed: an effective context of learning and course design.

An effective context of learning

From the three profiles it has been seen that if these students, especially the two with the better profiles, are encouraged to use their second language then they do improve it, as Swain (2000) argues. In other words, using the second language in context, where learning is integrated with using the language, is very helpful for developing second language use. This finding can be compared to a very similar result arrived at in a very different type of study by Thomas and Collier (1997). They carried out a series of large-scale, longitudinal studies in US elementary and secondary schools and, among many other findings, discovered that, of six different programmes for bilingual and ESL children, the two most successful over the whole schooling period (1st Grade – 11th Grade) were those in which language development was fully integrated with academic content. In fact, between Grade 5 and Grade 7, i.e. after four years, those children's achievements on average began to overtake the average achievements of native-English speakers although they had started in Grade 1 with little or no English.

While the two studies shared the finding that where learning is integrated with using the language, it is very helpful for developing second language use, the Thomas and Collier studies revealed two other significant findings, which are, on the surface, different from the present study.

- Improvement in second language learning appears only after four years, that is, there was a type of threshold effect.
- Acquisition of the second language is considered a long term process.

However these differences may hide similarities. In fact, in the present study, the students have already learned some English for a number of years in Japan and are studying it intensively as pre-university

students preparing for undergraduate study. Thus, while the present course was relatively short, just 5 months, it was building on several years of study of the second language in Japan. Although of course, the context of the learning in Japan is not known in detail (see Appendix A-), it can be seen that the acquisition of their second language for these Japanese students is a long-term process.

Secondly, the threshold effect was observed with students who had all been studying similarly over a period of time i.e. 4 years. A threshold effect with the weakest student was noticed in that she was never able to go beyond scores in Band 2 during the whole course. While, in the present study, threshold is considered in terms of scores, it could also be hypothesised that her previous learning of a second language in Japan was not substantial enough to allow her to make progress on the present courses, whereas with the other two students it was. Unfortunately further details of their Japanese schooling were not available.

An important finding about the effectiveness of the course is the link between process and product that was discussed in Section 11.3.4. From a pedagogical standpoint this finding is in line with the conclusions of Webb and Prosser (1994), that 'integrating a process and product approach to the teaching of writing' is valuable (p137). Their study was a different investigation because it examined the writing process of one essay being prepared by each student over several weeks and not one that was produced within a three-hour task session (see Chapter 2, Section 2.5.7). Nevertheless, both studies emphasise the importance of designing a context of learning that examines process and product effectively.

Course design

The design implemented in this study needs to be considered in terms of what has been learnt about it as a teaching tool. There are three aspects: task design, pre-post activities and assessment criteria.

Task Design

Three aspects need to be considered.

One aspect is that, in a series of integrated skills tasks, where the tasks are intended to be parallel in difficulty as far as possible, it was found in the study that performance can be affected if this is not the case. Firstly, the task instructions need to be parallel in difficulty. For example, the IST3 instruction was more complex than the other four task instructions.

Secondly, the manner in which the information inputs feed into the task instruction needs to be similar in all tasks. For example, information fundamental to addressing the instruction needs to be in the written text since it is present for a long period during the task session, whereas complementary information can be presented in the documentary since it is 'passing' information and depends on the students' abilities to take notes. This was not the case in IST3, for example.

The third aspect of task design is that the 'domain knowledge' of the students needs to be considered in selecting the topic for the task since the topic itself is a part of the contextual framework which determines the nature of language use. If the students are unfamiliar with the topic, this factor can, as Wenden (1998) argues, constrain performance (p519). In other words, the level of difficulty of the topic must be in line with the student's level of knowledge. For example, in the study, both the best and weakest students seemed to find the topic for IST3 difficult while the middle student had a few

problems with the topic for IST5.

One further comment needs to be made about task design. The contextual aspects of tasks are reinforced by Cummins (2001) stemming from the tradition of testing language proficiency in bilingual learners. Drawing on his earlier work on the BICS/CALP distinction (see Chapter 3, Section 3.5.1), Cummins discusses the distinction made between 'communicative tasks' and 'integrative tasks' where the former are described as 'interactive' and the latter involved 'processing of authentic language but in a contrived (test) context' (p122). However, he argues that the two types of tasks are best envisaged as two extreme ends of a continuum. In this small study, it has been shown that the CALP-type tasks can be both communicative and integrative because, even if 'contrived', they are partly shaped by the context within which they are situated.

Pre-post-task activities

Two aspects need to be considered.

Firstly, focusing on 'output', which is discussed by Swain (2000), was found to be valuable for extending the students' second language use in both the task sessions and the pre-post-task activities. Discussing the output, i.e. the written essay, provided opportunities for collaboration and the negotiation of meaning, whether about the expression of the content, the linguistic structure or the relevance of the content to the task instruction. Thus 'a constant cycle of analysis and synthesis' (see Chapter 3, Section 3.5.2 and Skehan 1996) can be encouraged through the opportunities to reflect on experiences collaboratively and through negotiation. Further, as Bygate (1999), Foster and Skehan (1996), Swain (2000), Wenden 1998 and others claim, the opportunity for collaborative dialogue about output in the second language mediates acquisition.

Secondly, it is suggested that the methods used for allowing reflection on progress through the pre-post-task sessions would appear to be important to the way in which the ISTs are taught since it was shown that the three students do appear to adopt certain approaches to their essay writing and that their selection of approaches improves. Thus, for example, pre-task sessions would appear to be important for encouraging students to prepare themselves for the task session by reflecting on past experiences and thinking about how to prepare the essay in the light of the assessment criteria. Further, for example, it would appear that a number of post-task activities could be critical and should include a review of the whole task, step-by-step, where students are encouraged to negotiate and collaborate with their peers and the teacher in the light of the task session experience. The assessment criteria could be valuable in encouraging a discussion aspects of content, organisation and language. These post-task experiences would appear to encourage reflection and, consequently, a metacognitive understanding of the process of working on the task which influences the selection of approaches to addressing each one.

Assessment Criteria

There are two important findings.

Firstly, the marks across the five tasks suggest that there is a threshold level indicating the extent of progress that can be made within a period of time, and that, if the student's marks are below this level, as in the case of the weakest student in the study, more help is needed to reach that level. The marks according to the band descriptors used in this study suggest that the level is between Band 2 and

Band 3.

Secondly, in relation to the pre-post-task activities discussed above, assessment criteria have long been accepted as very influential in students' second language development. Here their formative value has been highlighted by their pivotal role in the course as reflecting the task demands and the task goals. As holistic descriptors of language use, the criteria would appear to have been straightforward for the students to conceptualise in terms of understanding how the Overall Impression criterion is broken down into the three aspects of language use: Content, Organisation and Language. In fact these were probably a powerful instrument in making explicit the targets for the students.

The formative value of assessment, perceived as a pedagogical tool, has been significantly progressed by Black, Harrison, Lee, Marshall and Wiliam (2002) and McNamara (1996) in the directions of self and peer-assessment leading to more critical thinking about the subject being studied. In this small study, another direction has been pursued leading to the finding that the formative value of the assessment criteria themselves is that they can mediate the students' learning by encouraging them to use their metacognition.

CONCLUSIONS

12.1 Introduction

Chapter 12 begins with a brief reminder of the scope of the study.

Firstly, the sample was small, drawn from a group of students with similar backgrounds. The investigation has concentrated on three case studies within the sample, which means that any generalisations are tentative.

Secondly, the study has focused on the nature of the students' progress that is evident from the IST-based course. However, during the two terms when they were following the course, the students were also pursuing their science and mathematics studies in other classes through the medium of English and also using their English in their general, every-day lives. It is highly possible that the exposure to both the subject-specific genre and every-day English had some influence on their progress in their task essays.

Thirdly, it would have been profitable to have carried out a pilot study of each specific task in advance but this was practically impossible.

In this final chapter we present a summary of the findings of this study, already discussed in Chapter 11. Then the possibilities for further research are suggested.

12.2 The Summary of the Findings

There are three sets of findings. The main set, central to the study, is about student progress. Two other important sets of findings are the methodology used to examine the data and the pedagogical framework adopted to carry out the study.

12.2.1 The Students' Progress

One of the main findings is that overall progress in second language use was evident in all three students' essays. However, it was more evident in the essays of the two better students than in the essays of the weakest student. It is also possible that the level of English of the three students at the start of the course was significant in shaping their progress through the Integrated-Skills Task-based course.

A second main finding is that the three students in this study show similar progress in that they all improved approximately by one band across the tasks but the profile of progress was different for each student. One aspect that characterised progress was that it was not smooth but had jagged aspects; it happened at different levels, in different ways and at different points in the course.

These main findings are based on findings from three perspectives and sources of data: from the marks according to the assessment criteria, the text analysis and the analysis of the students' approaches to the tasks.

Progress as seen through implementing the assessment criteria

- The four assessment criteria revealed that progress is made by all three students but of different kinds, the feature common to these profiles being a jagged rather than a continuous, smooth progress. The first type of progress starts reasonably high, then drops slightly, returns to a high level and remains there. The second type of progress starts relatively low, reaches a much higher level immediately and maintains this progress. The third starts at a very low level, rises to a higher level immediately but has difficulty maintaining this level, although there is a slight recovery at the end.
- Progress in the Content and Organisation criteria is likely to be more aligned than progress on the Language criterion.
- The marks for the first essay, when compared with the marks for all five essays, revealed that there is a threshold level (of between Bands 2 and 3 in the study), which indicates whether or not sound progress in addressing the task can be made within the course.
- Progress in achieving a well-balanced essay is revealed through similar scores in a high band in all four criteria.

Progress as seen through the text analysis

Through the text analysis of the three students' essays, (which reveals progress at a deeper, more detailed level than do the assessment criteria) it is possible to show findings of features of language in use that are indicators of lack of progress and those that are indicators of success.

The three students' progress in using English as a second language to write an essay revealed difficulties across the different strata: at the textual, inter-T-unit, intra-T-unit and lexico-grammar levels.

a) Progress is hindered within thematic organisation at different levels.

- At the textual level through inappropriate selection and organisation of hyperthemes in terms of relevance, coverage and linking
- At the inter-T-unit level through weak thematic development, that is, through difficulties in using different forms of progression: short sequencing of simple linear progression, long sequencing of constant progression
- Also at the inter-T-unit level through lack of thematic continuity due to T-units not being thematically linked in any way
- At the intra-T-unit level through the frequent use of new information in the Theme rather than in the Rheme, and through the frequent use of empty subject.

b) Progress is similarly hindered within textual cohesion at the inter-T-unit and intra-T-unit levels.

- through inadequate or inappropriate uses of cohesive devices, particularly anaphoric referencing and the unacceptability of circumstantial adjuncts.

c) Progress is similarly hindered at the level of lexico-grammar.

- through information overload due to experimenting with linguistic complexity in the use of nominalisations, the unacceptability of some nominalisations and passive verbs.

The profiles of the three students revealed that when they showed progress in their language use through their written essays, a better sense of texture was achieved:

- at the textual level through a good coverage and balance of content in the essays through the appropriate selection and organisation of hyperthemes;
- at the inter-T-unit level through thematic development through longer sequencing of simple linear progression in relation to constant progression, and appropriate split progression;
- at the inter-T-unit level through thematic continuity with given information being taken up in the Rheme rather than in the Theme;
- at the inter-T-unit and intra-T-unit levels through appropriate and effective uses of cohesive devices, particularly anaphoric references;
- at the level of lexicogrammar through appropriate uses of nominalisations and grammatically acceptable uses of passive verbs which both show a more developed sense of writing scientific discourse.

Progress as seen through approaches adopted to addressing the task

The students' responses show progress through adopting approaches to the tasks as follows:

- systematic use of deep and strategic types of approach rather than a surface type of approach;
- systematic use of analytic, skills-oriented and/or self-regulative types of strategic approach since these could:
 - be refined and developed across the tasks, leading to task control and automaticity;
 - enhance a metacognitive understanding of specific task demands dependent on each student's individual set of abilities;
- use of compensatory or coping types of strategic approach or a surface approach limited only to addressing immediate difficulties that could not otherwise be resolved.

12.2.2 The Methodology and The Methods

- One of the main findings is that the three different methods of examining the students' responses have shown three distinct profiles of progress.
- The second is that the development and use of four assessment criteria: one general criterion (Overall Impression) and three criteria describing second language use (Content, Organisation and Language), using the five band descriptors, have provided a holistic overview of the differences in level of students' essays and are general indicators of the nature of progress over a series of essays in response to a set of integrated-skills tasks.
- A detailed text analysis along the lines of systemic functional grammar provides a fine-grained description of performance and progress than, thus illuminating the detail underlying the marks based on the assessment criteria.
- Also, key textual features used for the analysis would appear to be able to highlight the interconnection of the assessment criteria and of the different strata of the text analytical framework.

12.2.3 The Pedagogy

It would appear that a series of integrated-skills tasks is helpful to students' progress in developing their second language use in a specific context that:

- encourages students to use their listening, reading and writing skills, and to some extent their speaking skills;
- encourages them to use their prior knowledge;
- assists them to use their second language in preparation for their academic future, e.g. science study;
- takes account of their needs in terms of their goals and academic interests.

It appears that the key features of the ESAP-type IST-based course which can be combined in order to provide opportunities for the students to develop their second language use are:

- integrated-skills tasks with the output being a written essay,
- a series of tasks that are parallel in format to encourage familiarisation,
- assessment criteria with band descriptors for the students' benefit as well as for the assessor, and which could provide a threshold level indicating whether it is helpful and appropriate for a student to embark on the course,
- pre-post-task activities for every task, which provide opportunities for mediation and reflection.

It appears that an integrated-skills, task-based course provides an effective ESAP context of preparation for academic study in the target context of learning because students are encouraged to use their metacognition and thus become independent scaffolders of their own learning for developing their second language use.

12.3 Possibilities for Further Research

The study has implications for research and for teaching.

12.3.1 Implications for research

In brief, the study has examined student responses to a series of integrated-skills tasks set within a course. The study was designed both as a pedagogical tool and a research tool to include elements that would allow feedback to the students on their progress since it was considered that learning mediated by feedback is a key element in any learning process. Within the present study, the situations for feedback came in various forms and it is this consideration that leads to the first proposal for further research.

- There were five pre-post-task activities, which encouraged the students to reflect on their learning, to think more metacognitively about how to address the next task and to reflect on their long-term development. They comprised three pre-post-task group discussions and two one-to-one interviews with the teacher. They were found to be important because the students had the opportunity to revisit the task and to recall how they performed in terms of what they found interesting or difficult and what they might have done differently with hindsight. Clearly, five pre-post-task activities involves a substantial investment of time and expense, which was possible with the six students on this course, but would present problems with larger numbers of students.

Thus it is important to carry out further research to find which elements of these five situations are crucial to the learning process. One-to-one interviews are time-consuming, but they permit feedback to be given directly to the student, which could be very important. Group discussions about each task experience involve learning through others as well as students

learning about their own progress, which could also be very important. Hence, a more elaborate study could examine which elements of all these activities are most effective in allowing feedback to and from students, and in understanding the most effective kinds of feedback.

- The approaches to learning adopted in this study were taken from the findings of Marton and Säljö, whose investigations were carried out in a different context; they were examining the learning of native speaker students in higher education. Within this small study, the framework used seems to have been able to shed some light on the approaches students used to address the tasks. However, it would be important to carry out further research along these lines, but in the context of second language learning, for a more detailed scrutiny of the strategies that students using their second language adopt in addressing the tasks and in mediating their own learning. It is possible that other types of approaches and strategies might be discovered with a larger sample when the context is about second language learning.

The two instruments used to examine the students' responses are now considered further in terms of future research. They are: the assessment criteria and the text analysis.

The Assessment Criteria

The set of assessment criteria – Overall Impression, Content, Organisation and Language – were selected to depict a Hallidayan/Vygotskian perspective on language as a tool for making meaning at a holistic level not an analytic level, which was provided by the text analysis. Further research is needed to examine the following.

Firstly, the interdependency of the three criteria used to describe language use – Content, Organisation and Language – needs further scrutiny in terms of how effective they are as a global instrument for assessing language in use and, particularly, second language in use. For example, it was found that relevance to the task instruction in the essays became a key contextual feature of Content that was analysed through the selection of hypertheme and that the relevance of the content is made clear through the way it is organised and expressed. In other words, the presentation of the Content depends on Organisation and Language. It would be useful to investigate this further in a larger study.

Secondly, the four criteria were designed as a formative instrument to guide the students' learning. Further research is needed in order to investigate how effective an instrument could be for students who are close to or at the threshold level. Such research might possibly entail two steps with such students:

- i) to establish to what extent students at this level of second language learning can actually understand and interpret the criteria;
- ii) if such students are confident about their understanding of the criteria, to explore how they can use them for progressing their second language use.

The Text Analysis

The application of the text analysis to the students' essays has highlighted three points that need to be explored further.

- The link between Theme and information has been utilised to examine the distribution of information, both given and new, and non-information in the T-unit. This part of the analysis has been found useful to signal thematic development and information load. Information

overload in the Theme has sometimes been found unacceptable due to weaknesses in grammatical structure as well as in thematic development and textual cohesion. This aspect of interlanguage needs to be investigated in more detail.

- Concerning thematic progression, a new feature was added to the analysis: that of thematic elements taken up in the Rheme of the following T-unit. It not only took account of cases where the grammatical subject is positioned in the Rheme but all thematic elements from the Theme and Rheme recurring in the following Rheme. This feature revealed an attempt to continue ideas and therefore was called 'thematic continuity' in order to detect progress. This clearly was a provisional attempt to try and understand better how the interlanguage of students helps them make progress. But this idea needs much further investigation.
- Related to the previous point, in this study I have dealt with the concept of single rather than multiple Theme, where circumstantial adjuncts (CAs) as Theme may be adverbial phrases or dependent clauses in hypotactic relationship with the Rheme. However, North (work in progress) has been analysing students' texts using the notion of multiple Theme (Orienting and Topical), which would produce a different pattern of thematic progression and consequently of thematic development: Orienting Theme being the equivalent of the CA as Theme in this study and Topical Theme being the equivalent of the pre-verbal grammatical subject in this study. A comparison of two analyses, single Theme and multiple Theme, of the same essays could be helpful for our further understanding of thematic progression in using English as a second language.

12.3.2 Implications for Teaching

The study has led to some reflexive findings about teaching, concerning course design, understanding text, the role of assessment criteria and meeting students' needs.

Course Design

The study has shown that careful consideration needs to be given to certain aspects of an integrated-skills, task-based course as an ESAP context of learning.

If the tasks in the series are to be designed as parallel tasks, then the task instruction needs to be similarly and clearly composed for each task. In the study, it was found that two clearly expressed components, signaling how the essay might be organised, were appropriate. This is helpful to the student for planning the essay and thus leaves more time for concentrating on gathering and organising relevant information and on writing the essay. It would appear that the best tasks, which seemed to succeed in doing this well, were IST1, IST2 and IST4. Therefore it would be worth exploring other ways of formulating the task instruction in order to see which are the more helpful for students working on similar types of ISTs.

Since the ESAP tasks are not intended to challenge the students' understanding of their academic subject but rather to encourage their development of English, then the students' subject knowledge needs to be taken into consideration in selecting both the topic and the task instruction of each task. In this way, the level of cognitive challenge in the IST is not too high. In this way students are enabled to exploit their previously acquired knowledge in addressing the task if they wish to do so. It would appear that the tasks which allowed this to happen most effectively were IST1, IST2 and IST4. This means that, when dealing with a new cohort of students, ways need to be found of diagnosing the level

of their second language use and subject knowledge so that the teaching materials can be adjusted to suit them.

The selection of the information inputs in relation to the task instruction needs to take account of the effects of the differences in mode of presentation. Information presented through a documentary film is transitory, which makes retention difficult, whereas written text information input can be repeatedly read and absorbed over time. Therefore, the essential information required for addressing the task instruction needs to be presented in the written text and either repeated, complemented or supplemented in the documentary. The tasks that succeeded most successfully in doing this appeared to be IST1 and IST5. This means that input materials need to be carefully selected for the tasks in terms of their cognitive demands in relation to their mode of presentation.

Understanding text

Although the text analysis in the study is limited to certain features, the fact that it is based on thematic structure, viz. from Macro-Theme to Hypertheme to Theme and Rheme, is a useful tool for helping students using English as their second language to develop a sense of organisation and cohesion in their academic writing. An analytical approach to examining appropriate texts could reveal to students aspects of textual features at more micro-levels, which are important in helping them to create a better holistic product.

The role of assessment criteria

The assessment criteria are not only useful as a summative instrument but have an important formative role. Firstly, each of three criteria, Content, Organisation and Language, is one aspect of language in use and the three aspects combine to provide a description of language use as a whole. For example, 'relevance' in relation to output processing could be examined in terms of all three criteria, thus highlighting their interdependence, rather than as a sub-category of Content alone.

Also, the assessment criteria provide both an indication of how each task can be addressed and a direction for reflecting in retrospect after each task experience and in preparing for the next task session: during and after each pre-post-task session. In terms of encouraging reflexivity in the student writer, their formative potential could be taken further to provide a deeper perspective on developing second language use. In addition, however, as such a formative instrument in mediating students' learning, it is essential to ensure that they are comprehensible to the students involved.

Meeting students' needs

The implementation of this course has revealed that the needs of the weakest student, whose progress was very limited and unstable, do not seem to have been sufficiently addressed. Consequently she did not benefit from the course as much as the other two students. It appears that her language level at the outset was too low for the input and output processing needed to address the tasks, and the pre-post-task sessions were not sufficiently helpful in guiding her learning. Therefore, a key question remains: how to raise the level of such students to reach the threshold that will permit them to make more satisfactory progress in a course designed to help them develop their second language use for academic study. This is crucial in terms of which materials and methods to use.

12.4 Final Comments

This small study has opened further doors and suggested further avenues for investigating the development of second-language use through task-based learning within the setting of English for Specific Academic Purposes. Above all it has shown that the concept of task-based learning in terms of individual, student-centred, second language development is a rich field of exploration which can inform about learning in general.

Its main contribution to the field of task-based learning is the emphasis it gives to the importance of a contextually-based framework. In this investigation, the context of learning, within the specific setting of ESAP, has underpinned an in-depth, small, case-study approach. Both its research and pedagogical aspects, from the whole text level to the clausal and lexicogrammar levels, are understood with reference to local and specific contexts, including students' needs and goals concerning their future context of learning. Thus, the study has explored ways in which second language use can be understood and explained.

Underlying the framework is a Hallidayan perspective of language used to make meaning combined with a Vygotskian perspective of language as a tool for learning. This has permitted an in-depth study of a small number of individual students through a holistic understanding provided by the assessment criteria together with a fine-grained analysis of their second language use, showing distinct profiles of progress. Such an approach goes beneath the surface level of language use and reveals what students do with their interlanguage to express their meaning. It has also attempted to analyse the types of approach adopted by the students and the strategies they used, thus providing a new perspective on how output can be further explained: by examining the process. In these ways this study contrasts with previous, more psycholinguistically oriented, task-based learning studies, where student output of language has been abstracted from the student. The case-study approach has produced profiles that have direct relevance to the students themselves. In doing so, the value of the study is highlighted through its concentration on the individual student's performance and progress, which provides different insights into the nature of the individual learning of a second language which possibly, through other studies, may be generalised at a later stage.

Students are constantly surprising us with the individual nature of their learning. Those who are operating in their second language are indeed adventurous and must necessarily do a great deal of risk-taking to be successful in their aims and objectives. Therefore we need to be receptive to the surprises that they present to us because they are telling us things we need to know about: the changing world, the cultural influences on their second language use; their perceptions of using their second language.

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